

CHARLES RIVER EDITORS

GÖBEKLI TEPE AND DERINKUYU

The History of Ancient Anatolia's
Most Unique Sites

Göbekli Tepe and Derinkuyu: The History of Ancient Anatolia's Most Unique Sites

By Charles River Editors



A picture of the excavated ruins of Göbekli Tepe

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Introduction

When one thinks of the world's first cities, Sumer, Memphis, and Babylon are some of the first to come to mind, or if the focus then shifts to India, then Harappa and Mohenjo-daro will likely come up. But archaeologists recently uncovered a site thousands of years older than any of those, marking one of the oldest settled sites in the world.

One of the earliest species of the genus *Homo* to be discovered thus far is *Homo habilis*, which basically means "handy man." The name came from the belief at the time of its discovery that this species was the first to start using stone tools, since the first fossils to be uncovered in Olduvai Gorge were from the same stratigraphic layer as simple stone tools. Fossils of the crania and postcranial skeleton for this species have been found in both eastern and southern Africa and date to as far back as 2.5 million years ago. While other *Homo* species would be able to use stone tools and harness fire over time as well, the Bronze Age, marking the transition to new kinds of tools, would not come until very recently (relatively speaking).

The Neolithic period came before the Bronze Age and is generally regarded as the final subdivision of the Stone Age. During this time, communities domesticated plants and certain animals but still relied on hunting and gathering to a considerable extent, and beginning sometime around 7000 BCE, handmade pottery was developed, along with more advanced stone axes that enabled people to clear vast forests. Thanks to tools like that, the sizes of these Neolithic communities ranged from thousands to as few as a hundred, and they spread across the world with a variety of cultures and languages. One aspect these cultures had in common was that they relied on similar tools made of stone, wood, and bone.

Despite the fact some Neolithic communities grew to considerable sizes, they're typically not considered when people think of the first ancient civilizations or the first major cities, so when German archaeologists discovered the archaeological site of Göbekli Tepe in southeastern Turkey in the 1990s, it created an academic firestorm that is still raging. Far from being just another settlement, Göbekli Tepe has been described as the world's first temple and perhaps one of the locations where human civilization began. Subsequent archaeological work at Göbekli Tepe has revealed that the site was a spiritual center for the local population during a time when humans were undergoing a transition as hunter-gatherers in the Paleolithic Period to a more sedentary lifestyle in the Neolithic Period, more than 10,000 years ago. Further research in the disciplines of anthropology, religion, and history indicate that the activity at Göbekli Tepe subsequently set the tone for elements of Neolithic and Bronze Age religion and ideology in the Near East, especially in Anatolia (roughly equivalent with modern Turkey).

Although many elements of Göbekli Tepe's history remain an enigma, and probably will in the future due to the nature of the source material, the relatively recent work at the site has helped historians speculate about how Near Eastern people lived in the Mesolithic Period, how those lifestyles evolved, and how they contributed to the history of the era.

During the Late Bronze Age, from about 1500-1200 BCE, the Near East was a time and place where great kingdoms and empires vied for land and influence, playing high stakes diplomatic games, trading, and occasionally going to war with each other in the process. The Egyptians, Hittites, Babylonians, Assyrians, and several smaller Canaanite kingdoms were all part of this system, which was one of the first true "global" systems in world history and also one of the most materially prosperous eras in antiquity.

Thus, the transition from the Bronze to the Iron Age during the late 13th and early 12th centuries BCE arguably changed the structure and course of world history more fundamentally than any period before or since, and at the center of this period of turmoil was a group of people known today as the Sea Peoples, the English translation of the name given to them by the Egyptians. Despite their prominent role in history, however, the Sea Peoples remain as mysterious as they were influential; while the Egyptians documented their presence and the wars against them, it has never been clear exactly where the Sea Peoples originated from, or what compelled them to invade various parts of the region with massive numbers. Whatever the reason, the Sea Peoples posed an existential threat to the people already living in the region.

Among all the early Iron Age people from the Near East who inherited the geopolitical vacuum of power left by the Sea Peoples invasions, the Phrygians are perhaps one of the most misunderstood. They built a powerful and wealthy kingdom, but were overshadowed by their more powerful and wealthier neighbors, the Lydians. From the early 7th century BCE until the middle of the 6th century BCE, the Lydians played an important role in the history of the eastern Mediterranean region as they took on the role of middleman between the empires of the Near East and the emerging Hellenic civilization in Greece. From their capital in Sardis, the Lydian kings traded and made alliances and war with numerous kings, tyrants, and generals, which ultimately cemented their role as a brief but historically important people and kingdom in the ancient world.

It seems that around this time, one of the most unique sites in antiquity was being constructed in central Turkey, an archaeological mystery modern scholars have only recently begun to uncover. Known as Derinkuyu in the Turkish language, the archaeological site is as expansive as any other in Turkey, but its expanse is more vertical than horizontal, which is what makes it so unusual. The lost city of Derinkuyu descends to depths of nearly 300 feet under the wind-swept cliffs and rock formations of the otherwise desolate region known as Cappadocia. Cappadocia's landscape looks otherworldly, windswept, and unlivable in places, and if not for modern technologies, including electricity, sanitation, and irrigation, it surely would be considered inhabitable by many people.

However, despite the unforgiving nature of the region and climate, Derinkuyu, which started with a series of cave constructions in the 7th century BCE, managed to become a somewhat bustling location when the Byzantine Empire controlled the area in the Early Middle Ages, alive with a combination of peasants, pilgrims, merchants, and warriors. As is the case with many archaeological sites, it was surpassed and forgotten with the advent of the modern world, so when Derinkuyu was serendipitously discovered in the mid-20th century, it remained a curiosity for quite some time and did not elicit much scholarly attention beyond the initial archaeological work and subsequent reports.

More recently, Derinkuyu has caught the attention of tourists, while academics have started to ask serious questions about this important site. Recent studies of Derinkuyu have helped illuminate how a city able to house 20,000 or more people could exist in antiquity, particularly with regard to logistics. How the administrators of Derinkuyu were able to provide its people with food, water, and even air has, for the most part, been answered, even though the site has not been fully excavated.

Of course, even as historians have learned more about how Derinkuyu was built and maintained, there are still more questions than answers related to the underground city. There

is a lack of primary sources about Derinkuyu – in fact, there are only a few medieval and ancient texts that describe the region in general, and none detail how Derinkuyu was built or how its inhabitants lived. Therefore, some of the most important questions relating to Derinkuyu can presently only be answered with educated guesses, including what day-to-day life was like for Derinkuyu's inhabitants, how long it took to build, what tools and techniques were used in the construction, and even the site's basic chronology. While most agree that Derinkuyu's apex was in the Middle Ages during the Byzantine Empire, some argue over whether parts of it were first built during the Hittite Empire or even in the Neolithic Era. The purpose of the city has also been questioned, with some arguing it served primarily as a refuge from invaders and never served as a full-time city, leading some academics to question if it should even be referred to as a city.

All of these questions make the site one of the world's most overlooked and interesting ancient and medieval wonders.

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The Timing

The lifespan of Göbekli Tepe took place during the transition from the Paleolithic to the Neolithic period, during what some scholars refer to as the Mesolithic or Middle Stone Age. The Mesolithic period was marked by shared technological and cultural features from the periods before and after it, but more closely resembled the Neolithic period, which is why experts now usually term it the "Pre-Pottery Neolithic period." About 12,000 years ago, the earliest forms of plant and animal domestication were taking place in the vicinity of Göbekli Tepe, and although there were some semi-permanent settlements in the region, people still lived primarily as hunters and gatherers.

To understand how this transition took place and the impact it had on Göbekli Tepe, it is important to go back in time a bit further. About 18,000 years ago, the last Ice Age ended, bringing warmth and longer growing seasons to much of the planet, especially the Near East (Bachheimer 2018, 20). Although the fundamental human lifestyles did not immediately change after the glaciers receded, new and distinct cultural groups formed that would lay the foundations for such a transition.

The two earliest and most prominent cultural groups in the Near East to emerge after the Ice Age were the Kebaran, who existed from about 18,000-13,000 years ago, and the Zarzian, who were dominant from about 20,000-10,000 years ago. Both groups ranged from the Mediterranean basin to the Zagros Mountains, leaving their mark in terms of material culture for modern archaeologists to find (Bachheimer 2018, 21). Both cultures were still hunter-gather societies, living nomadically and following their food sources, but they exhibited capabilities that would help lay the foundation for the Neolithic period.

The groups these two peoples formed were generally larger than Paleolithic groups that came before them, and perhaps most importantly, the Kebaran developed and invented bows and arrows that allowed them to hunt more game effectively. The Kebaran are also believed to have domesticated dogs (Bachheimer 2018, 23). There is no evidence that the Kebaran or the Zarzian domesticated bovines or other animals for food sources, but a clear step forward in human development had been made.

Although the Kebaran and Zarzian provided important steps in the cultural and technological development of the Near East, they would not be the culture that ushered in the Mesolithic Era. The Natufian was the next dominant culture in the region, dominating the Mesolithic period from about 15,000-11,000 years ago (Bachheimer 2018, 27). The Natufians inhabited much of the same territory as the Kebaran and Zarzian, and utilized the same technologies those cultures had developed, while adding their own influence by introducing semi-permanent living structures (Bachheimer 2018, 34). It would be generous to refer to Natufian dwellings as proper houses, given that they were completely wooden and could be quickly disassembled, but the ability to live in one place over an extended period was a prerequisite for domestication. The earliest Natufian settlements were located near game trails and edible plants, which over time led to the settlers taming the animals they once hunted and growing the plants they gathered. It is important to point out that this transition from the Paleolithic to the Neolithic Period was not uniform across the Near East - sites in lowlands generally developed quicker than those in higher elevations, while the available food sources also played a role in the size and even ideology of certain sites.

Although Göbekli Tepe was built more than 6,000 years before writing, and hundreds of

years before pottery was invented, archeologists have narrowed the creation of the site to just after 10000 BCE through the use of carbon dating and stratigraphy (Bachheimer 2018, 63). Since this period was before the invention of pottery, but after the Paleolithic period had ended, historians have termed this the Pre-Pottery Neolithic (PPN) period, which is further divided into PPN A and PPN B periods. Klaus Schmidt, who discovered Göbekli Tepe in the early 1990s and led the excavations there until his death in 2014, referred to the era as "Proto-Neolithic" and used the older term "Mesolithic" (Schmidt 2000, 48).



A picture of Schmidt

Almost as important as establishing Göbekli Tepe's chronological placement in history is understanding where it was physically located. The people who built Göbekli Tepe did so for many reasons, including proximity to resources and its spiritual setting. The first reason is relatively simple to deduce when the resources in the region are understood, but the second reason is a bit more enigmatic and continues to perplex researchers, but they tend to assume that the resources, climate, and topography of the region around Göbekli Tepe must have affected its spiritual importance.

Göbekli Tepe is in southeastern Anatolia on the edge of what is often referred to as the "Fertile Crescent." The Fertile Crescent has traditionally been defined as a wide geographical swath that encompassed the Levant and then arced to include most of Mesopotamia to form a crescent shape (Haywood 2005, 23). Although Göbekli Tepe was technically just outside the

Fertile Crescent, it was also in a fertile region.

As scholars have uncovered more climate and environmental data about the Near East during the Neolithic period, it has become clear that the Fertile Crescent was just one of three fertile zones in the region. In addition to the Levant and Mesopotamia, the Zagros Mountains, which comprise Mesopotamia's natural eastern boundary and most of Anatolia, were also quite fertile. When these regions are combined, they formed a triangle – sometimes referred to as the “Golden Triangle” – with Göbekli Tepe located where all three regions converged (Bachenheimer 2018, 35). This was almost surely important in helping persuade the founders of Göbekli Tepe to choose the location, and it is also important because it no doubt helped spur later development in the region. It is important to know that the Golden Triangle region was fertile not necessarily due to its soil, although the soil was adequate for farming, but more so due to sufficient rainfall (Haywood 2005, 22). The abundant rainfall allowed hunter-gatherers to experiment with different wild crops and eventually adopt a sedentary lifestyle. Sedentary farming began in the ninth millennium BCE, and by 8000 BCE domesticated strains of wheat had been developed (Haywood 2005, 22). As noted previously, though, domestication was a long process and uneven geographically, so as some crops were eventually domesticated near Göbekli Tepe, the process happened more rapidly in other places. The location and rate of plant and animal domestication remained largely reliant upon the resources available in a particular location.

In terms of edible plants that were later domesticated, wild einkorn wheat, emmer wheat, and barley were all available near Göbekli Tepe. Wild peas, wild lentils, and wild chickpeas were also abundant in the region. Game was also quite abundant just east of Göbekli Tepe, including sheep, boars, goats, and aurochs (Bachenheimer 2018, 48). Therefore, there certainly was enough food in the area to support pilgrims who visited the site as well as a possible full-time priesthood.

There were likely other factors that played a role for the exact location of Göbekli Tepe, particularly when its relative isolation is considered. Göbekli Tepe is situated on the eastern end of the Anti-Taurus mountain ranges about seven miles northeast from the modern Turkish city of Urfa (Bachenheimer 2018, 63). Even today, the site is quite isolated and desolated: few roads lead there, and it is quite arid and devoid of most vegetation. It overlooks the Harran Plain, which is an arid steppe, but nearby is the Balikh River that comes from springs (Bachenheimer 2018, 63). It is reasonable to assume that the Balikh springs provided water for the original builders of the site as well as pilgrims and possibly priests and other residents. The site does not obviously lend itself to any spiritual significance, although its location on a hill (Turkish “tepe” and Arabic “tell”) possibly points to religious significance. The site can be seen from more than 12 miles away on the plain, so it would have been a major landmark or beacon for travelers in the region (Schmidt 2000, 46). The architects of Göbekli Tepe also would have wanted to be as close to their gods as possible, so choosing a more elevated location for the temple was logical.

The Modern Discovery of Göbekli Tepe



An aerial view of the excavated areas at the site

As is the case with most major archaeological sites, the discovery and subsequent excavations at Göbekli Tepe are themselves quite a story. Few archaeologists believed there was anything worth searching for at Göbekli Tepe, so they instead focused their attention on other Neolithic sites nearby, making some incredible discoveries but allowing Göbekli Tepe to remain hidden. The discovery was serendipitous, though, because it only happened as archaeologists were working at another nearby Neolithic site.

A German archaeological team led by Harald Hauptmann began work on the PPN B site of Nevalı Çori in 1982, uncovering plenty of artifacts as they continued excavations until 1992 (Bachenheimer 2018, 71). Nevalı Çori is located on the Kantara River, a tributary near the headwaters of the Euphrates River (Haywood 2005, 23). Hauptmann's work at Nevalı Çori was groundbreaking, as it helped historians gain insight into the transition from the Paleolithic to the Neolithic periods, particularly how the earliest sedentary communities formed throughout the Near East and the ideologies that they shared. One member of Hauptmann's team was a young archaeologist named Klaus Schmidt, who thought there was even more beneath the surface of southeastern Turkey.

Schmidt knew that there were other Neolithic sites in the region waiting to be found, but he had to narrow down potential options before he began digging. Modern archaeology is often just as political as any profession, so he needed to prove to his sponsors and the Turkish government that he was close to a discovery before he could attain funding and proper permits. To do this, he had to look to the work of Peter Benedict, an American archaeologist with the University of Chicago who had researched the area for potential archaeological sites (Bachenheimer 2018, 72). It should be pointed out that neither Benedict nor Schmidt were specifically looking for the "world's first temple," but one or more PPN sites similar to Nevalı Çori. Benedict first named Göbekli Tepe as V 52/1 in his monograph of the archaeological work he did in the region from 1963-1972 with Istanbul University and the University of Chicago Research in Southeastern Anatolia program (Schmidt 2000, 45). Benedict only offered some cursory observations of the site and apparently did not think it was too important (Schmidt 2000, 46). After some diligent research of Benedict's publication and help from locals, Schmidt discovered the remains of stone tools at the summit of Göbekli Tepe, and when he could not find any signs of pottery, he knew it was a PPN site (Bachenheimer 2018, 72).

The discovery was enough to get Schmidt the permits and funding he needed to begin work at the site, and Schmidt was given the lead of a combined team from the German Archaeological Institute and the Urfa Archaeology Museum that began excavations in 1994 (Bachenheimer 2018, 73). The relatively mild climate of the region allowed for multiple expeditions per year, for a total of five by 1999 (Schmidt 2000, 46). Schmidt and his team made their most significant findings during their first few years of field work, uncovering several sanctuary enclosures, but work continues to the present. By 2012, over 43,500 square feet were uncovered, which Schmidt believed was only about 5% of the site (Bachenheimer 2019, 79). The excavations have led to a new wealth of knowledge about the PPN Near East in general and Anatolia in particular, and examining how Göbekli Tepe was built will help paint a more complete picture of this incredible archaeological site.

Göbekli Tepe's Layout

It almost goes without saying that the manner in which Göbekli Tepe was built, from the physical construction of the site to the community created it, makes it truly incredible. The builders of Göbekli Tepe had no template with which to work, so what they created was

unique and inspired by the builders' imaginations. The builders' technology was also limited, and primitive by even ancient standards, and it was long believed that the kind of social structure needed to harness the required manpower for such a project was also nonexistent. Modern technology has given archaeologists some answers as to how the site was constructed, but many questions remain.

Carbon dating and stratigraphic analysis have revealed that Göbekli Tepe was built in stages, with the oldest part being built as early as 10000 BCE (Scham 2008, 23). A bit of imagination is required to reconstruct the process, but it likely began not long after the site acquired its practical and/or spiritual significance, however that occurred. Another practical reason for the location of the site was likely connected to its proximity to building materials: the limestone used was quarried nearby (Schmidt 2000, 48). This was likely the oldest stone quarry, which is obviously important, but equally important is how the workers quarried the stone and transported it to the site. The quarry workers only had stone tools at their disposal – copper tools were still thousands of years in the future – and the wheel was an early Bronze Age invention. These technological limitations meant that the workers had to use methods similar to those the Egyptians used to build their pyramids and temples. After the workers cut pieces in the quarry with their stone and wooden tools, they placed the pieces on flat boards and lifted them with ropes and pulleys and moved them across logs (Scham 2008, 26). Each of the "T shaped" pillars that are hallmarks of Göbekli Tepe are solid and weigh from two to 10 metric tons, so moving them was not an easy task and could be quite dangerous (Banning 2011, 622). Hundreds of workers were required to build the site because of the size of each pillar, the number of pillars that were used, and the danger of the work, because some workers were inevitably injured or killed and had to be replaced.

Given the mammoth scale of the project and the dangers involved, there are various questions about the nature of the site's social organization (Scham 2008, 23). If Göbekli Tepe was a religious complex as Schmidt argued and most scholars agree, then it likely would have required a priesthood. If this was the case, then the Göbekli Tepe priests may have been the first known priest class in history (Scham 2008, 26). The priesthood of Göbekli Tepe may not have been a full-time profession, which was often the case in Bronze Age societies, including Egypt, where it was for most only a part-time occupation (Shaw and Nicholson 1995, 228). Either way, questions about the division of labor and the knowledge needed to construct the site remain, because without a similar project to base the work off of, it is an open question who had the knowledge and technical know-how to construct the site, and how many workers were employed at the site.

If one looks to Bronze Age Egypt and Mesopotamia for answers, then it is likely that whatever priest class existed at Göbekli Tepe during its inception also served as engineers and technical advisors. The most educated people in Bronze Age Near Eastern societies were the priests, and priests served as their societies' scientists, doctors, and historians, so it is possible this tradition began at Göbekli Tepe. Without writing, though, these early polyglots would have had to rely on oral traditions to transmit their knowledge, which in the case of science would have been no easy task. Commanding hundreds of workers to do the difficult, dangerous manual labor required to build Göbekli Tepe would have also been difficult. The Egyptians and Mesopotamians benefited from relatively strong central governments and entrenched theological and kingship ideologies that allowed them to conscript thousands of workers at a time to build their monuments. There is no evidence that the priests of Göbekli Tepe commanded a strong central government, or that any government per se existed at the site at all, which leads to the possibility that the workers contributed to the effort of their own

volition.

The number of workers required to build Göbekli Tepe and the priest class that likely worked there raise another important question: did Göbekli Tepe serve as a settlement in addition to a temple? Schmidt pointed out that there were no signs of hearths, ovens, or any other artifacts of domestic living at Göbekli Tepe, suggesting that there were little or no permanent dwellings at the site. Schmidt did concede that hunter-gathers who repeatedly visited the site for spiritual reasons could have exhausted the supply of wild game in the vicinity, so cultivation of grains and other flora may have started there at some point (Schmidt 2008, 26). An alternative view will be discussed further below, but for now it is important to consider that workers, priests, or others could have had permanent or semi-permanent dwellings nearby, just not directly at the site. The workers may also have lived in huts that simply decomposed, so evidence of their existence is gone or yet to be discovered. For the time being, although the archaeological evidence clearly demonstrates that there was considerable human activity at Göbekli Tepe, it remains undetermined if there were any permanent dwellings at the site.

Since work on Göbekli Tepe is ongoing, it is difficult to assess its true size and all its features. What has been uncovered so far though paints an image of a site that was more important than any other before it. The size alone demonstrates just how important the inhabitants of the region believed Göbekli Tepe was, and its large, relatively detailed pillars and the fact that the site was rebuilt multiple times all demonstrate that it truly occupied a central place in the world of the people of Anatolia in the Mesolithic period.

So far, archaeologists have uncovered four major enclosure sanctuaries and three minor ones. Schmidt and his team ordered the enclosure alphabetically, with Enclosure A being the first discovered and G being the most recent. The major enclosures are A, B, C, and D, and the smaller enclosures were labeled E, F, and G (Scham 2008, 23). The oval-shaped enclosures cover a 25-acre area, although as noted earlier, Schmidt believed they comprised only a fraction of the entire site (Bachenheim 2018, 63).



A picture of the ruins of Enclosure B



A picture of the ruins of Enclosure C



A picture of the ruins of Enclosure F

Within the enclosures are pillars, which in many ways are the centerpieces and most intriguing aspects of Göbekli Tepe. Schmidt numbered the pillars in the order of their discovery, with more than 200 so far having been fully or partially excavated (Bachenheimer 2018, 77). The circular shape of the enclosures immediately led researchers to believe that they were used for ritual purposes, although the shape does not necessarily exclude a living space or a dual purpose ritual-living space. The enclosures were not uniform in size, ranging from 30 to 100 feet in diameter, with each surrounded by six-foot-high stone walls (Scham 2008, 23). A geophysical survey has indicated that there are as many as 20 more structures beneath the surface of what has been excavated, which, if they are ever uncovered, could change some of the conclusions that have already been made about the site (Scham 2008, 24). But based on what has already been excavated, it is clear that Göbekli Tepe was an important location for at least 2,000 years.

The extended period that Göbekli Tepe was in use says much about the site and the nature of religion in the Mesolithic period. The people of the region obviously thought the site was important enough to continually use it, but what is even more important is that they also built and rebuilt the site at least three times. Since the question of whether Göbekli Tepe served as a permanent or semi-permanent settlement for at least a small group of people has not been settled, scholars prefer to use the term "activity" over "settlement" when referring to the occupation levels at the site (Bachenheimer 2018, 66). There are a total of three levels of

activity, with the top level being the final level of activity and bottom being the earliest, as is the case with most archaeological sites. In terms of chronology, the top level is post-Neolithic and primarily consisted of debris, while the next level is PPN B and the bottom is PPN A (Bachenheimer 2018, 67). So far, there have been no signs of massive destruction uncovered at Göbekli Tepe, so it appears that new levels were created when structures became too old or possibly too small for the community. The archaeological evidence indicates that when the community leaders decided that a sanctuary was no longer usable, they simply filled it with material and built a new sanctuary on top of or next to the previous one (Bachenheimer 2018, 122-3).

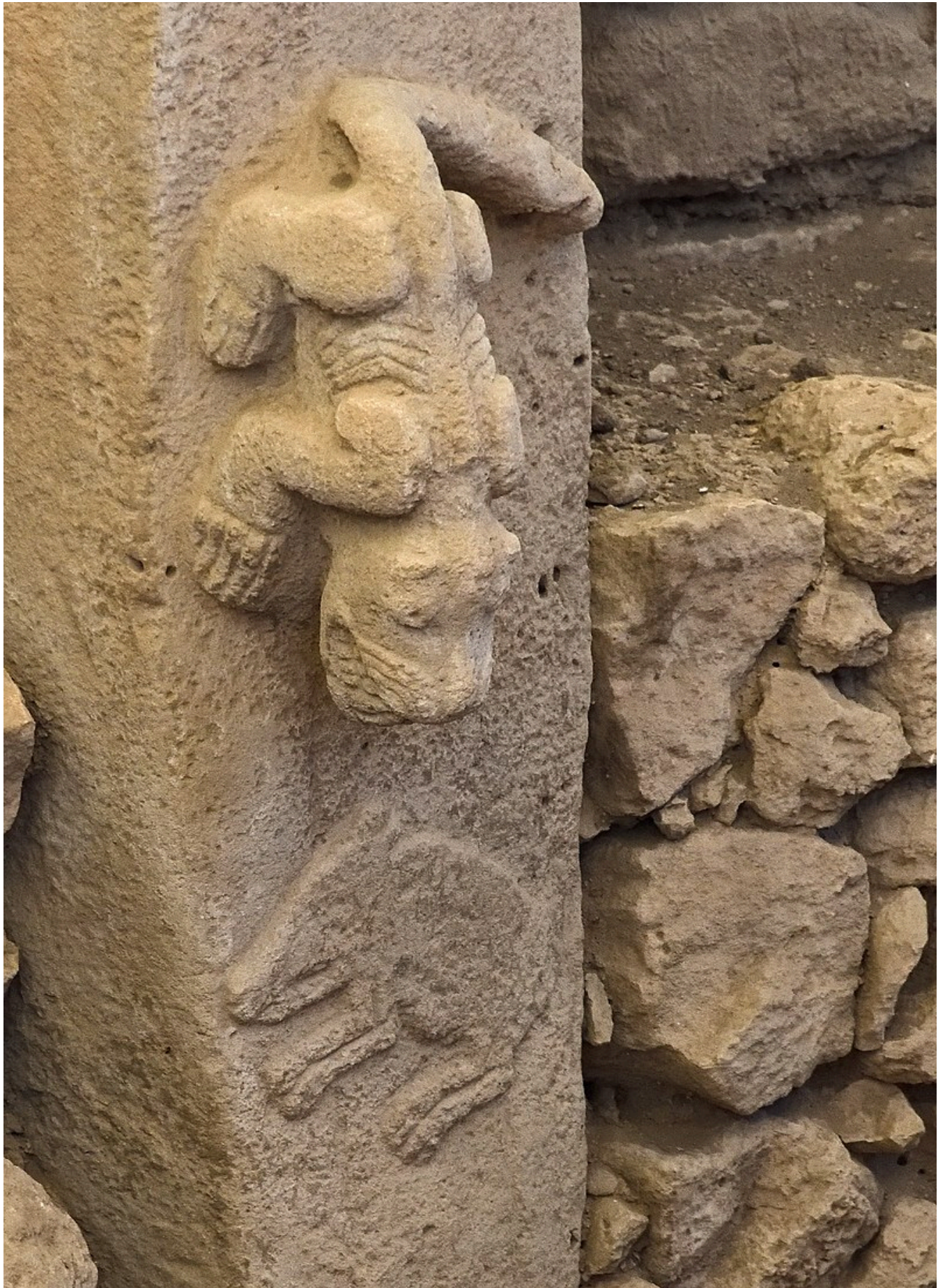
Schmidt and his team also established that the major enclosures – A, B, C, and D – were built during the PPN A period (Banning 2011, 621). This would indicate that the PPN A was the era of Göbekli Tepe's peak prestige and likely when its nearby population would have been the highest. Therefore, it appears that construction at Göbekli Tepe began with great support from the regional population, which continued throughout the PPN A period. During the PPN B period, Göbekli Tepe's importance or relevancy began to wane, and subsequent work on the site declined.

A closer examination of this idea reveals that Göbekli Tepe was constructed in two major stages. The first stage began around 10000 BCE and ended around approximately 9000 BCE, or toward the end of the PPN A period, while the second phase ended around 8000 BCE in the PPN B period. The same architectural and artistic styles were used in both phases, but the first phase includes the most T pillars with the most intricate designs (Bachenheimer 2018, 83).

The T pillars are so named because they resemble a capital letter "T," and due to their size and location throughout the complex, they are believed to have been used as pillars. Most of the T pillars are 10-13 feet tall, with those that were likely used as central pillars a bit taller (Bachenheimer 2018, 89). Each of the pillars contains figures of animals or humans in raised relief, making them the first known examples of relief art in world history. The T pillars have no accompanying written text, so Schmidt and other experts have been forced to make educated guesses as to their meaning. Most agree that they represent how hunter-gatherers of the region viewed the world as it slowly but certainly transitioned from the Paleolithic to the Neolithic Era (Bachenheimer 2018, 90-91). At the same time, it must be remembered that these almost certainly contained religious symbolism as well.



A picture of a pillar in Enclosure B



A picture of a pillar in Enclosure C



A picture of a stone in Enclosure D

Since the T pillars in the central part of the sanctuary enclosures were a bit taller than the others, they may have had further religious significance (Bachenheimer 2018, 99). The two taller pillars in each sanctuary were in the center, perhaps acting as the centerpiece of an altar, ritual area, or other type of sacred space. The center pillars may also have had a practical use, such as holding up a wooden roof, or they could have served both purposes simultaneously. They were also unevenly distributed, at least in terms of what has been discovered so far, with Enclosure E having the fewest with two and Enclosure C having the most pillars at 19 (Bachenheimer 2018, 78).



A model reproduction of the central pillars in Enclosure D

Another architectural feature of Göbekli Tepe that remains a mystery and possibly connected to the T pillars is the monolithic stones found in some of the enclosures that have been termed “portholes.” Scholars do not know what function these slabs served, but one theory is that they served as portholes. The so-called porthole stones are shaped as basins and were found scattered throughout the enclosures, so the context of their discovery has not helped scholars narrow the possibilities. The identification of the slabs as portholes or some other type of windows is certainly logical, but it raises the obvious question of why the world’s first temple would need portholes or windows. If Göbekli Tepe was a religious complex, and if the enclosure sanctuaries were the most sacred areas of the complex, then a window or porthole would have little practical use. One would think that the divine would not need a window to see its worshippers, or, likewise, the worshippers need windows to see a deity or deities that manifested themselves through nature.

If the slabs were not portholes or windows, what else could they have been? An alternative explanation for the monolithic stone slabs is that they were part of a rooftop enclosure (Bachenheimer 2018, 119). Although there is no evidence that the sanctuaries at Göbekli Tepe had roofs, one theory is that they did and that the “portholes” were placed on the top-center of the sanctuaries, where they held together wooden beams that formed the skeleton of a rooftop structure (Bachenheimer 2018, 123). There is no evidence of the rooftops other than the portholes, because the skeleton was made of wooden beams and the roof was probably

thatch, both of which would have degraded thousands of years ago.

A brief survey of the enclosures is also necessary to put the entire site in its proper perspective. The enclosures were the most important aspect of the site because they comprised the largest area and are the focal point of Göbekli Tepe. As interesting as the pillars may be, they were built for the enclosures, which are what made Göbekli Tepe a proper temple. Enclosure A was discovered in 1995, making it the first of the sanctuaries to be uncovered as well as the location where the first pillar was discovered (Bachenheimer 2018, 78). The design on Pillar 1 includes five snakes and what appears to be a net of snakes, which is interesting given that snakes were not part of the hunter-gatherer diet. Pillar 2, also discovered in Enclosure A, has an image of a bull, fox, crane, and bucranium (ox head), respectively (Schmidt 2000, 49). Overall, five pillars have been attributed to Enclosure A, but there may have been 17. Enclosure A comprises 144 square feet and is a semi-rectangle with a crescent-shaped side, which is a departure from the other primarily oval and circular-shaped enclosures. Enclosure A was covered by the post-Neolithic backfill of Level III (Bachenheimer 2018, 78).

Enclosure B is slightly larger than Enclosure A at over 203 square feet and like most of the other enclosures is oval shaped (Bachenheimer 2018, 78). Nine T-shaped pillars were discovered in Enclosure B, with its central pillars preserved in situ. Enclosure B's central T-pillars are quite large, at just over 18 feet, and decorated with interesting motifs (Bachenheimer 2018, 99). The two pillars have mirroring reliefs of what appear to be a fox or some type of canine (Schmidt 2000, 50). What appear to be benches run along the interior circular wall. Enclosure B was first discovered in 1998 at the same level as Enclosure A, and other than its shape, it resembles the previous enclosure in most ways. One of the more notable features of Enclosure B is its waterproof terrazzo floor (Bachenheimer 2018, 78). Although this floor predated the invention of concrete by several thousand years, the terrazzo functioned in the same way by giving the floor a hard surface above ground.

Enclosure C, which was discovered underneath the Level III debris in 1998, is perhaps the most intriguing of all the enclosures discovered so far. Positioned just to the east of Enclosure B, Enclosure C has 19 T pillars arranged in two distinct rings (Bachenheimer 2018, 89). The number of pillars and their two rings suggests that Enclosure C represented the apex of building at Göbekli Tepe, and there are other features of the enclosure that appear to corroborate this belief. The structure is comprised of two oval-shaped structures, one inside the other. The interior oval is nearly 240 square feet while the outer structure is 643 square feet (Bachenheimer 2018, 78). In addition to having the most extant pillars of any enclosure, Enclosure C's pillars also have some unique features that continue to puzzle scholars.

The T pillars in Enclosure C are notable not just for their numbers but also for the deep grooves that were cut on the top of them. 14 of the pillars at the site, in Enclosure C as well as some of the other sanctuaries, show signs of these grooves. These grooves, or notches, have provided more intellectual grist for researchers to contemplate in relation to the already enigmatic Göbekli Tepe. One of the more logical explanations for these grooves is that they served as footings for beams that were used for a roof (Bachenheimer 2018, 90-91). As with the portholes discussed earlier, this theory only makes sense if Göbekli Tepe had a roof; if it did not, then the grooves on the T pillars had to have served another purpose. Another possible explanation for the grooves may be related to how the temple was built and how the pillars were moved. The grooves could have functioned as a sort of latch for ropes that were attached to the pillars when they were pulled from the quarry, but not all the pillars had these

grooves, so that theory is problematic. It also remains unknown if 14 pillars would have been enough to support roofs for all the sanctuaries, so at this point the grooves cannot be explained conclusively.



A picture of a pillar in Enclosure C depicting a fox

Another important mystery from Enclosure C is the image of a severed human head on one of the T-shaped pillars. The relief depicts a human with a severed head and a vulture standing over the scene, with a scorpion approaching from the bottom (Bachenheimer 2018, 91). At first glance, the scene appears quite chaotic and disjointed, but a comparison with other Neolithic sites from the Near East may help shed some light on its meaning. Headless corpses were discovered at the Neolithic archaeological sites in Catalhuyuk, Turkey, and Jericho, which are believed to have been part of a widespread ancestor cult in the region. Archaeologists believe that one of the essential rites of the ancestor cult was to detach and preserve the skulls of venerated relatives, likely displaying them in ritual contexts (Bachenheimer 2018, 92). The Near Eastern "skull cult" persisted into the Bronze Age until it was replaced by the religious cults of the people who dominated the region at that time, including the Assyrians, Hittites, Canaanites, and Babylonians, but in terms of longevity, the skull cult was possibly quite older, especially if it originated when Göbekli Tepe was active. Human remains uncovered at Göbekli Tepe point toward the skull cult possibly having its origins there, or at least first being articulated in a way that survived for posterity.

The human remains discovered at Göbekli Tepe are primarily fragmentary and were not in a funerary context. With that said, most of what has been uncovered are skull fragments by a count of four to one (Bachenheimer 2018, 131). If the skull fragments discovered at Göbekli Tepe were relics of a skull cult, how would they have been displayed, and in what context? These questions are not easy to answer, but the answer to the second one would almost certainly be that these skulls were used in a funerary or religious context. The most likely explanation would be that the skulls were part of an ancestor skull cult, but they could have also been used in funerary rituals that will likely remain forgotten for eternity. How these skulls were displayed is almost as interesting and important as to why they were displayed. It appears likely that the skulls decorated the interior walls of the sanctuaries, where the priests and initiates into the skull cult would have viewed the sacred objects as they walked past the T pillars (Bacheneheimer 2018, 132). The pillars could have provided a story for priests and initiates to follow as they walked around the circular enclosures until they reached the skull wall or altar, which would have served as the center piece of the site.

A final interesting point about Enclosure C involves the relief on Pillar 12. The upper part of the relief depicts either five birds trapped in a net or wild Asiatic asses jumping over rocks (Schmidt 2000, 50). The relatively crude designs and lack of detail leave many of the designs on the pillars open to interpretation, but either possibility is interesting. If the image is birds in a net, as Schmidt argued, then it may have been an ancient snapshot of what the workmen and priests at Göbekli Tepe thought of their world as it transitioned from the Paleolithic to the Neolithic Era. The wild equines could have also been a snapshot of game in the time just before horses and donkeys were domesticated. With that said, although wild horses provided game for hunter-gatherers on the Eurasian Steppe and later became the first domesticated equines, they were not as important in Anatolia. Small, donkey-like equids were hunted in Mesolithic Anatolia, so the depiction could have been of these animals (Anthony 2007, 198).

Although Enclosure C is quite large and fairly intricate, Enclosure D – which has a similar structure comprised of a larger exterior and a smaller interior enclosure – is even larger. Enclosure D is also similar in shape as Enclosure C, with a 403-square foot oval interior and a nearly 758-square foot exterior oval (Bachenheimer 2018, 78). Located just to the north of

Enclosure C, Enclosure D has 13 pillars, but the most preserved pillars and the most in one single ring of enclosing walls (Bachenheimer 2018, 90). Enclosure D was the last of the major enclosures to be discovered – in 2001 – with work on it taking place from 2002-2012 (Bachenheimer 2018, 78).

Enclosures E (nearly 299-square feet), F (304-square feet), and G (219-square feet) are all circular or oval shaped (Bachenheimer 2018, 78). In addition to having less surface area than the first four enclosures, considerably fewer pillars were discovered in enclosures E, F, and G. Only two pillars were discovered in Enclosure E, eight pillars in Enclosure F, and two pillars in Enclosure G (Bachenheimer 2018, 78). A final building, known as the “Lion Pillar Building,” was discovered in 1998 and excavated during the 1998-1999 season. This structure was slightly different than the other enclosures due to several features, including its rectangular shape and smaller size, at 130-square feet (Bachenheimer 2018, 78). Only two T pillars were discovered in the Lion Pillar Building (Bachenheimer 2018, 78).

The enclosures themselves were the most important aspect of the entire site, but within them were several archaeological details that help clarify the purpose of Göbekli Tepe and who its people were. Some of these details may seem mundane at first, but a closer examination reveals they were important parts in the development of Neolithic culture in the Near East.

Enclosure C contains a set of nine limestone steps that are about eight feet long and six and a half feet high. The steps are more than 11,500 years old, which makes them the first known stairs in human history (Bachenheimer 2018, 122). The invention of stairs once again raises the issue of whether there was a permanent population at Göbekli Tepe, or not, with the creation of the stairs suggesting that the site was intended for regular use. With that said, there have been no other stairs discovered at Göbekli Tepe, so they may have been an experiment conducted by technically inclined hunter-gatherers who were simply passing through the area.

A major obstacle to Göbekli Tepe being a permanent living site, or even semi-permanent for that matter, was a lack of water. The nearest source of water to the site is about three miles to the south, which, although not extremely far, would have made sustaining a permanent population difficult. The leaders of Göbekli Tepe would have needed to marshal laborers to move water from the springs three miles away to the site every day, and if the site’s population grew, it may have required multiple trips per day. Since the leaders of Göbekli Tepe likely marshalled considerable manpower to quarry the limestone and build the sanctuaries, it is possible they did the same for the water supply. Another solution could be that cisterns were used at the site. Cistern-shaped depressions were discovered next to the enclosures in the bedrock, suggesting that they were manmade formations used to hold water (Bachenheimer 2018, 124).

In addition to water, a permanent or semi-permanent population at Göbekli Tepe would have also needed a consistent food source. Animal and plant remains have been excavated at Göbekli Tepe, but they all are wild varieties (Bachenheimer 2018, 124). This does not mean that domestication of some plants and animals did not happen at or near Göbekli Tepe, only that a majority of edible flora and fauna consumed at the site was wild. It is believed that the bones of gazelles, red deer, boars, goats, sheep, oxen, and different species of birds were consumed as food and possibly as part of ritual sacrifices (Scham 2008, 26). Based on the context in which the animal and plant remains were discovered, it is difficult to determine which remains were consumed as food and which were used in rituals. If one takes the position that Göbekli Tepe had at least a small permanent population, then it is likely that a

fair amount of the plant and animal remains were consumed as food. As with the later Bronze Age Near Eastern cultures, sacrificial plants and animals would not have gone to waste and would have been consumed by the priests after the rituals. The remains do not preclude small-scale domestication taking place near Göbekli Tepe, but it does not appear the site was the center of a sudden surge in domestication.

Other interesting discoveries at Göbekli Tepe include limestone heads and hundreds of lint spearpoints. Several small limestone statues and fragmentary limestone heads were discovered in the backfill that supported pillars in Enclosure D. From an art history perspective, these are among the earliest examples of three-dimensional statuary in the world, but they also help clarify Göbekli Tepe's purpose. Since art for the "sake of art" is a modern concept, archaeologists are almost certain that Göbekli Tepe's statue fragments served some type of religious or ritual purpose. One of the more intriguing theories is that there were once life-sized statues that guarded the sanctuaries, possibly standing next to or connected with the T pillars (Bachenheimer 2018, 129). It is possible that along with the skulls, they formed the centerpiece of an ancestor cult at Göbekli Tepe that later spread across the Neolithic Near East.



A picture of a boar statuette



A statuette depicting the head of an animal



A carved stone depicting an unidentified animal

The fact that hundreds of flint spearpoints were excavated among the fill layer is intriguing on several levels. Due to where they were discovered within the site, it would appear they were essentially thrown away like garbage, but that does not explain how and when they came to Göbekli Tepe. Göbekli Tepe does not have any defensive fortifications, and the site shows no signs of destruction by invaders, so it has always been assumed that the spearpoints were either brought there by pilgrims or even produced on the site. One theory is that pilgrims brought flint nodules with them to Göbekli Tepe and then fashioned them into spearpoints within the sacred precincts (Scham 2008, 26). If this theory is true, then the pilgrims may have donated a portion of the spearpoints they created as votive sacrifices and kept the rest, using them to hunt game. In this context, the deities worshipped at Göbekli Tepe would have been gods and goddesses of the hunt, much like the hunters who visited the site. Of course, like so much else, the importance and purpose of the spearpoints are still open to debate.

The Religious Significance of Göbekli Tepe

After Schmidt discovered Göbekli Tepe and initially published his theory that it was the world's first temple, most archaeologists agreed. While that is now subject to debate, it is still important to consider what ideology and theology the priests of Göbekli Tepe may have followed and how influential their religion may have been.

The theological study of the site typically begins with the important T pillars, which remain enigmatic for several reasons. First, the lack of writing accompanying the reliefs leaves

scholars guessing how the images were meant to be interpreted and the context in which they were created and displayed. As was mentioned earlier, the artistic rendering of many of the figures was lacking in the style and technique of the later Bronze Age, but clearly animals comprise the vast majority of the figures and a closer look at the animals reveals some interesting details that could be connected to the theology of Göbekli Tepe.

Foxes, wild boar, and mouflon (a species of wild sheep) are more common on the pillar reliefs than gazelles and wild cattle, both of which were common among the animal bones discovered in the debris. This realization has led to speculation, with Bachenheimer suggesting that the scarcer a species at the time, the more likely it was to be represented, and that the pillars were “a transcendent summoning of their essence for the desire for greater amount” (Bachenheimer 2018, 127-8). This idea certainly sounds plausible and may be true in some of the cases, but it is also difficult to reconcile with the high frequency of snakes depicted on the pillars. There is no evidence of snake remains among the debris, so the occupants of Göbekli Tepe apparently did not eat snakes, and throughout human history snakes have been regarded mercurially at best.

Another potentially important and interesting point about the T-pillar reliefs is that “all animals are depicted as male, and no clearly female symbol is visible up to this point” (Schmidt 2000, 51). Throughout history, female deities and mythological symbols have been associated with fecundity and domestic contexts while their male counterparts were associated with warfare and the hunt. There have been exceptions to this rule – the Greek goddess Artemis was associated with the hunt and the Egyptian goddess Sekhmet was the deity of war – but this was generally the case among all cultures and all periods. The male-centric purpose of these reliefs could be related to the hunters who frequented Göbekli Tepe and possibly identified with the male game in the figures.

In addition to the natural rendering of the animals on the T pillars there was also a component of mythology present (Schmidt 2009, 47). For example, Pillar 12 depicts a band of five ducks under which is clearly a boar, and under that is a fox or another type of canine (Bachenheimer 2018, 90; 129). The fox does not appear to be hunting the ducks, nor does the boar appear hostile toward the other animals, almost creating a surreal scene where animals that would normally be hostile toward each other as predator and prey seemingly peacefully occupy the same space. This type of imagery can be viewed in other places across the world, such as in the Twentieth Dynasty (c. 1196-1069 BCE) Egyptian papyrus known as the “Satirical Papyrus.” In this piece, a cat and a fox peacefully and cooperatively drive a flock of ducks (Robins 2000, 192). Although the Egyptian “Satirical Papyrus” was created in a more comedic context, it demonstrates that ancient peoples could use their imaginations to mix the natural and mythological worlds in art, which may have been the inspiration for the reliefs on the T pillars.

Another religious element of the T pillars to consider is their shape. The T shape of the pillars likely provided support, especially if there were roofs over the enclosures, but there is no practical reason why they were made in that shape. One explanation for the T shape of the pillars is that they were supposed to represent people standing with their arms out in a cross stance (Schmidt 2000, 49). This theory would certainly fit with what is known about the pillars and could work as a sort of framing device for the story told on each one. Another theological explanation for the T pillars is that the construction of them was a form of ritual and piety.

Once again, potential answers can be found in later Bronze Age Near Eastern cultures in Egypt and Mesopotamia, where the construction of temples was strongly imbued with

religious overtones. Therefore, the construction of Göbekli Tepe may have been a long and ongoing ritual, indicating that the T pillars were the focal point of the religion. After the T pillars were placed in the sanctuaries, the priests would have moved past them, possibly reciting incantations as they performed their rituals. Among the most important rituals performed in many cultures throughout history are funerary rites, so an examination of the potential funerary component of Göbekli Tepe's religion is warranted.

The excavations at Göbekli Tepe have so far uncovered no tombs, although they may be beneath the enclosures that have already been uncovered (Scham 2008, 27). But even if there are no tombs on the site of Göbekli Tepe, it does not mean that the religion of the people did not articulate an afterlife or funerary rituals. It may be that the tombs of important people are located nearby but not directly on the site. Another possibility is that there were no funerary rituals carried out at Göbekli Tepe. If Göbekli Tepe was not a settlement, or only very few people lived there, then it is likely that most of the followers of the religion would have been buried in other places, following the traditions of other Mesolithic groups. It should also be noted that even later in the Bronze Age, not all cultures attributed the same importance to funerary rituals and burials. On one end of the spectrum, the Egyptians placed a paramount importance on funerary rituals and the afterlife, while on the other end of the spectrum the various cultures of Mesopotamia left very little regarding funerary rituals in their writing or material culture. The people of Göbekli Tepe may have simply followed a funerary ideology that was closer to the Mesopotamians than the Egyptians.

Based on what historians have learned from the excavations at Göbekli Tepe, a few "big picture" assertions can be made. It can be said that Göbekli Tepe was a spiritually important site to the hunter-gathers of Mesolithic Anatolia, and some educated guesses can be made as to why that was the case, but some of the details are still missing. The site was so important that it was built and rebuilt on numerous occasions over the course of several millennia, and there was an obvious amount of skill that was involved in its creation, further attesting to the site's importance. It is now widely assumed that the site of Göbekli Tepe and the religion practiced there represented a transition from the Paleolithic to a true Neolithic religion (Scham 2008, 24). Before Göbekli Tepe, small bands of hunter-gathers practiced very personal, tribal, and localized religions, but after the site was built, there was a transition to regional religions, which ultimately paved the way for the religions of the Bronze Age (Scham 2008, 24).

However, in addition to the unknown status of burials at or near Göbekli Tepe, there are few details about the religion itself. One would presume that the people followed a polytheistic religion, as monotheism developed relatively later in world history, but it is unknown if there was an official cult at Göbekli Tepe (Schmidt 2009, 47). If one takes the stance that there was a permanent priest class at the site, then there was likely a cult with very specific rituals and ideology, but if the worshipers fulfilled priestly duties on an ad hoc basis, then the cult could have been very fluid or even nonexistent. If there was an official priest class and cult, were any or all parts of the sanctuaries off limits to non-priests? Again, because the public was only granted access to limited parts of Bronze Age Near Eastern temples, it would be tempting to think this idea originated at Göbekli Tepe, but without further evidence that can only be conjecture.

Whether festivals were held at Göbekli Tepe is another interesting, unanswered question. One could imagine festivals held to celebrate the solstices or equinoxes, but there is no archaeological evidence at the site that suggests the people recognized these events. It must also be remembered that the people of Göbekli Tepe were not yet farmers or herders, so they

would not have celebrated planting or harvest.

The People at Göbekli Tepe

The background of the people who visited Göbekli Tepe and possibly lived there has been touched upon earlier, particularly the Mesolithic cultural groups to which they belonged, but it is important to examine that a bit deeper. By examining the genetics of the people of the region, along with more specific elements of their culture, it may be possible to determine if there was a permanent population at Göbekli Tepe and make an estimate on its size.

Genetic testing and DNA profiling is a relatively new technology that was introduced by British geneticist Alec Jeffreys in 1985. The initial applications of this technology were in the field of criminal justice, but it did not take long for biologists, archaeologists, and anthropologists to begin using DNA profiling on a massive scale of living humans as well as skeletal remains. DNA profiling gives archeologists another level by which they can classify people who are long gone. The first layer would be culture, which includes the languages people speak, the foods they eat, the clothes they wear, the traditions they have, the religions they follow, and other traits that bind a group together. DNA establishes the genetic ties that bind a group together, and although there is often overlap between a genetic grouping and a cultural grouping, defining the differences within a population can help scholars narrow down a particular population in a region.

Populations can be genetically subdivided into DNA haplogroups, which are populations that share many of the same genetic markers. Haplogroups can be subdivided into successively smaller groups, down to the clan or family unit. Members of the DNA haplogroup J-M304 are credited with the domestication of plants and animals in the Near East. This is a large haplogroup with many subgroups, such as J-M172, also known as "J2," which was the dominant group in the Gold Triangle region when Göbekli Tepe was built (Bachenheimer 2018, 59). These J2 people, who were later part of the agricultural revolution in the Near East, laid the genetic groundwork for the people who would build Göbekli Tepe, but just as important were the cultural traits they brought to the region. When these J2 people first came to the region of Göbekli Tepe, they were clearly hunter-gatherers, but it could be that the site's nearly 2,000 years of existence influenced their social structure as much as they left a mark on Göbekli Tepe's religious ideology. The pilgrims who visited Göbekli Tepe lived in small, egalitarian groups, which likely influenced the composition and functioning of the site, at least in its earliest phases (Schmidt 2009, 46). These early visitors of Göbekli Tepe were not members of a larger clan or an organized village but retained their small tribal structure before migrating with their game (Lichter 2007, 60). The question is, though, did this population ever become a sedentary culture at Göbekli Tepe?

While Göbekli Tepe likely had a permanent population, it was probably quite small. Specialists and builders would have had to live at the site as the new sanctuaries were being built, and it is also likely that if a priest class and official cult existed, then the priests would also have resided at Göbekli Tepe (Bachenheimer 2018, 90). But even if a relatively small population lived at Göbekli Tepe full time, then those residents would have required resources, which presents some logistical problems. The issue of water could have been solved with the potential cisterns located nears the sanctuaries – as discussed previously – but steady sources of food would have presented problems. Without the domestication of plants and animals, the priests and workers at Göbekli Tepe would have required hunters and gatherers to bring them food, which very well may have been part of the offerings. As the pilgrims brought food

offerings to Göbekli Tepe, the permanent residents of the site would have allowed the visitors to manufacture flint spearpoints, perhaps leaving some as offerings. If Göbekli Tepe did have permanent residents as it appears, then it could have been the world's oldest permanent settlement in addition to being the oldest temple (Lichter 2007, 60).

Alternative Views

Klaus Schmidt's view that Göbekli Tepe was the world's first temple has been accepted by most of academia, and although he later conceded that some people could have lived at the site, he did not believe it was a true settlement. This idea has persisted in the years since Schmidt's death in 2014, with the image emerging that Göbekli Tepe was a sort of spiritual oasis in a vast desert of primitive hunter-gatherer people. Although the evidence does indicate that Göbekli Tepe was a religious site and that the human occupancy of the site is questionable, the issue is often presented in ways that ignore the complexity of the era. For example, E. B. Banning acknowledged in a study that Göbekli Tepe was likely a religious temple, but Banning also argued that the site could have housed a large human population.

Schmidt's argument that Göbekli Tepe was only a temple, with living spaces possibly nearby, was based on the theory that the people of the PPN Near East separated sacred spaces from profane spaces (Banning 2011, 619). This is not to say that the two spaces were never physically close, but that there was no overlap or dual use. Thus, while Schmidt admitted that a full-time population may have been required at Göbekli Tepe, commoners never lived in the sanctuaries that have so far been excavated. The priests and workmen may have lived near Göbekli Tepe, but there was a clear physical demarcation between their living space and where the religion was practiced. Conversely, Banning has pointed out that this was not necessarily always so clear in other places throughout the Neolithic Near East.

The lack of burials at Göbekli Tepe was discussed earlier, with the possible explanation being that they may simply be underneath the excavated sanctuaries. Banning expanded on this by arguing that in other locations in the Neolithic Near East, bodies were routinely inhumed under homes. In a number of late Neolithic Near East archaeological sites where skeletal remains have been exhumed, animal skulls and horns, as well as wall paintings, were also present, suggesting that the locations were homes and that inhumation under homes was quite common (Banning 2011, 627). The lack of human remains found so far at Göbekli Tepe could work either way in this respect. First, if no remains are found, especially if excavations are conducted beneath the sanctuaries, then Banning's hypothesis could be proven wrong. On the other hand, if remains are found, then it could be that the sanctuaries were living spaces that possibly doubled as religious spaces, proving Banning correct. The evidence is so far inconclusive, but Banning argued other elements of Göbekli Tepe strongly suggest that it was a dual-purpose site.

Banning also argued that the statues discovered at Göbekli Tepe may indicate a domestic context. Although it is generally assumed that the statues of Göbekli Tepe were made in an official capacity and probably stood in the sanctuaries, Banning noted that a human head sculpture was discovered in a house at the nearby site of Nevalı Coir (Banning 2011, 628). Banning admitted that this discovery alone does not prove that the sanctuaries at Göbekli Tepe served as dual living-religious spaces, but he believed it was another piece of evidence. To bolster the finding, fragments of several others were found in other houses. This was also the case in other sites in northern Mesopotamia, not far from Göbekli Tepe, suggesting that homes could double as religious sanctuaries and vice versa (Banning 2011, 628).

As mentioned earlier, the idea that Göbekli Tepe had roofs was mentioned, but the roof's potential domestic implications were not considered. Banning noted this in his article, adding that the presence of a roof could indicate a living space (Banning 2011, 629). Banning's assertion is based on the idea that Neolithic temples were generally open spaces, such as Stonehenge or other sites discovered in the Near East, but this is not true in all cases, and because Göbekli Tepe was built so much earlier than later temples, it is problematic to assume that if it did have a roof, then it must have been used, at least partially, as a dwelling.

Banning also argued that the fill debris – namely, the animal remains – suggests that there was at least a small population that inhabited the site full time (Banning 2011, 634). Although Schmidt and other experts have not disagreed that the site was inhabited at least part time by a small number of people, they have not embraced the idea that the inhabitants lived in the sanctuaries. Banning also suggested that Göbekli Tepe could have housed a relatively large population, with there being enough game nearby to eat and water was more available at the time. Although today the area around Göbekli Tepe is arid and contains little water, Banning argued that it was more humid when the site was operating and the water table was higher, which would mean that gathering water would have been much less of a problem (Banning 2011, 635).

Banning certainly made a compelling argument for Göbekli Tepe's dual domestic-religious use, but there are two major problems with his argument. The biggest issue is that no burials have been discovered so far at Göbekli Tepe. Although some human remains have been discovered among the fill at the site, they were scattered throughout the fill, and where most of the fill was located, there were no indications the remains were part of a ritual burial site (Bachenheimer 2018, 131). It is important to point out once again that the floors of Göbekli Tepe's sanctuaries have not been excavated and Neolithic Era human inhumations in the Near East were often done underneath domestic dwellings, so it appears that this element in the debate over Göbekli Tepe's status as a religious site, settlement, or both will remain a mystery because it is unlikely excavations will go below the already uncovered sanctuaries.

Perhaps the most compelling argument made against the theory that Göbekli Tepe was a settlement is the lack of ovens, hearths, or other domestic equipment. It is a fair assumption that if there was a permanent population at Göbekli Tepe, then there would be some archaeological signs of cooking. Banning argued that the lack of a discovery of an oven at Göbekli Tepe is not surprising, though, since almost all PPN buildings in the Near East lacked ovens (Banning 2011, 633). It should also be noted that by the very nature of the era, there would be no signs of pottery. Still, researchers think that signs of a simple hearth would have been discovered or even rudimentary utensils common in the PPN Era, such as lithic blades.

Based on the available evidence, the argument over Göbekli Tepe's permanent population remains unresolved. It is likely that a small population lived there full-time, but that the people were dependent on food from pilgrims and water was either brought in from the nearby springs or caught in small cisterns. The priests and workers likely lived in huts made of perishable materials that did not stand the test of time, while the sanctuaries were a completely sacred space. Banning offered an interesting alternative theory, but so far there is virtually no physical evidence to support his argument.

The Decline of Göbekli Tepe and Its Lasting Legacy

To place Göbekli Tepe in its proper historical and archaeological context, it is important to remember just how long ago it was built and how long it existed. From the time it was first built as early as 10000 BCE until it was abandoned around 8200 BCE, Göbekli Tepe was apparently the sole religious temple in the world. It stood as a beacon of spirituality in the emerging Neolithic Near East, but eventually it would collapse as countless temples would after it. The reasons for Göbekli Tepe's collapse are not completely understood and were likely complex, but even as Göbekli Tepe collapsed and was eventually covered by the sands of time, it managed to influence later sites throughout the Neolithic Era.

While archaeological evidence demonstrated that Göbekli Tepe was completely abandoned around 8200 BCE, how long that process took and why it happened are open to debate. The site shows no signs of sudden damage, such as burn layers, suggesting that its abandonment was gradual and not likely caused by invaders or a sudden environmental disaster. Schmidt believed that the answer to why Göbekli Tepe was abandoned can be found in the era when it existed. Göbekli Tepe was built and existed during the PPN or Mesolithic period, when humans were transitioning from a hunter-gatherer existence to a sedentary lifestyle, so Göbekli Tepe represented a religious worldview that was common among hunter-gatherers but became increasingly obsolete the more the Near East transitioned into the Neolithic Era. By the late 9th millennium BCE, domestication became more common in the region and the people saw Göbekli Tepe as an irrelevant relic of a previous era (Bachenheimer 2018, 81). As a result, the site gradually lost its prestige, fading away instead of dying out in one dramatic moment.

Nonetheless, even if the people of the Neolithic Near East may have moved on from Göbekli Tepe and its ideology, its influence reverberated throughout the region well into the Bronze Age. Just a few miles north of Göbekli Tepe near the Euphrates River, in what is today southeastern Turkey, was the equally important settlement known today by its modern name, Nevali Çori. The site of Nevali Çori has been dated to the late PPN B Period (around the mid-ninth millennium BCE), which means that the two sites existed simultaneously for a time. Unlike Göbekli Tepe, there is no debate that Nevali Çori was a settlement, but its architectural connection to the former is unmistakable. Archaeologists discovered T-shaped pillars in what are believed to have been the communal spaces of Nevali Çori, although they are smaller than those of Göbekli Tepe (Bachenheimer 2018, 88). The Nevali Çori pillars also had a similar style of reliefs carved into them, suggesting two possible explanations. Since Nevali Çori was built after Göbekli Tepe, artists and workers from the latter could have provided the knowledge and done the work on the former. The other explanation is that because Göbekli Tepe was such an important site in the region, the founders of Nevali Çori were regular visitors to Göbekli Tepe, and they brought its styles and ideas with them when they built their settlement.

Just as hunter-gatherers likely brought the architectural and possibly the spiritual ideas from Göbekli Tepe to Nevali Çori, they brought Göbekli Tepe's influence across the Near East and beyond. Atlat Yam in Israel is a notable site that resembles Göbekli Tepe, but Neolithic sites much farther away were built with the same notable stone circles. There are also notable Neolithic stone circles in Barnenez and Carnac (France), Arkaim (Russia), Nabta Playa (Sudan), and Malta. The structures at these sites were comprised of stone circles that have been described as having "transcendent meanings" throughout time (Bachenheimer 2018, 97). The similarities have led some scholars to point out that megaliths arranged in circles were

common in Mesolithic England, as exemplified by Stonehenge, but none of those constructions used the T-shaped pillars (Bachenheimer 2018, 92). Thus, while it is certain that Göbekli Tepe had some influence on Nevalı Çori, how far physically that influence went, and how long it lasted, are still unclear.

In addition to the architectural influence Göbekli Tepe may have had on the Neolithic world, it also could have been one of the sources of domesticated agriculture and Neolithic Era ideology. Wheat was first domesticated just a few miles away from Göbekli Tepe, suggesting that local residents played an important role moving the region into the Neolithic period (Scham 2008, 24). Cattle were also domesticated in the Near East in the late PPN B phase, just after Göbekli Tepe was abandoned (Arbuckle 2014, 281). Given those facts, Schmidt's hypothesis that Göbekli Tepe was abandoned because it lost its relevancy is more logical. As the people of the region developed and became reliant on domesticated forms of food, the hunter-gatherer religion of Göbekli Tepe no longer had relevance to them, so it was abandoned in favor of new religious views more aligned with their sedentary lifestyles.

Nonetheless, the animal figures that were so prominently displayed on the T pillars at Göbekli Tepe may have provided inspiration for later Bronze Age religions. During the Bronze Age, cattle and other domestic animals became symbols of the elite and were viewed as signs of conspicuous consumption, which may have originated in Göbekli Tepe (Arbuckle 2014, 278). Although the animals depicted and consumed at Göbekli Tepe were wild, their depictions did convey a sense of ownership, so therefore those who controlled the temple also controlled those animals, at least on the spiritual plane. The message behind the animal depictions at Göbekli Tepe may have evolved throughout the Neolithic and into the Bronze Age, but they remained symbols of power for millennia that were utilized by the elites to convey their status in society.

Cappadocia

In order to understand Derinkuyu, one must begin with its physical location. As noted above, Derinkuyu is located in modern Turkey, which was part of different kingdoms and empires throughout history, and within Turkey, the site is in the central region now known as Cappadocia. Many notable empires covered Cappadocia in antiquity, most notably the Hittite Empire (c. 2000-1200 BCE), the Phrygian Kingdom (9th-7th centuries BCE), the Achaemenid Persian Empire (6th-4th centuries BCE), and then the Romans and the Byzantine Empire. Eventually, the Byzantines were replaced by the Seljuks and Ottomans. Since so many different people ruled Cappadocia throughout history, Derinkuyu has been known by different names, including Elengubu and Malakopea, but for the sake of consistency, it will only be referred to by its more popular Turkish name, Derinkuyu.

The region of Cappadocia encompasses approximately 36,000 square miles of Turkey, known in ancient times as Anatolia or Asia Minor, and within that region are about 12,500 square miles of volcanic deposits (Bixio & Yamaç, 2023). The volcanic deposits give the region a unique look and character, with natural spires reaching into the skies, as well as material that makes it relatively easier for workers to build into the sides of cliffs and underground. The term "Cappadocia" itself is ancient and is believed to have first been coined by the 5th century Greek historian Herodotus (Kostof, 1989, p. 5). Herodotus described the boundaries of ancient Cappadocia as follows: "The Cappadocians are known by the Greeks as Syrians. Before the rise of Persian power they were subject to the Medes, but at this period to Cyrus. The

boundary between the Median and Lydian empires was the river Halys, which flows from a mountain region in Armenia through Cilician territory, and then, passing between the Matieni and Phrygians, turns northward and forms the boundary between the Cappadocians to the east and the Paphlagonians to the west. The Halys is thus the boundary of nearly the whole of southern Asia Minor from the Mediterranean in the neighborhood of Cyprus to the Black Sea. (Herodotus, 2003, I, 32)

The Greeks were probably the only people referring to the Cappadocians as Syrians, which was due to Cappadocia's relatively close proximity to Cilicia. Cilicia was located on the Mediterranean across from the Levant, so the Greeks generally viewed the people of the eastern Mediterranean coast as "Syrians" and apparently, by extension, also the Cappadocians. As will be discussed further later, the different people settling Cappadocia and the area around Derinkuyu were not actually Syrians; most were Indo-Europeans.

Today, the vast region of Cappadocia is known for its exceptionally dry climate, and the Halys River is the only river passing through it (Kostof, 1989, p. 9). The dry climate and lack of water sources were two of the main reasons Cappadocia's population was limited. Although the Hittites built their capital city in the region, it was not well-suited for organic growth, so it was devoid of major population centers until the late Roman era, and even then, the cities were centrally planned.

Cappadocia's aridity, as well as its unique geology, resulted in its very distinct looks and population patterns. The rock cone spires mentioned earlier are scattered in clusters of dozens or even hundreds throughout the region (Kostof, 1989, p. 9). These natural formations give Cappadocia an otherworldly look and feel that was, no doubt, part of the appeal attracting pilgrims to Derinkuyu and other settlements in the region. Although the rock cone spires have attracted travelers to Cappadocia for centuries, there were not enough to attract settlers organically.

The lack of water sources, suitable soil, and large settlements are more reasons why Derinkuyu is so special, because as it turned out, Cappadocia is situated on the borderland with other notable regions, including Cilicia, Syria and the northern Levant, northern Mesopotamia, Armenia, and Pontus. Due to its somewhat central location, Cappadocia became a literal crossroads for merchants, pilgrims, and armies at times, many of which passed by Derinkuyu.

Since there are no premodern textual references to Derinkuyu, modern archaeologists did not even know it existed until it was accidentally discovered in 1963. Archaeologists and historians were aware of the many rock-cut Byzantine churches and chapels scattered throughout the volcanic region of Cappadocia, but they had no idea what was beneath their feet. Once Derinkuyu was discovered, it opened a new chapter in archaeology for Cappadocia that is still being written.

Derinkuyu was hidden and forgotten about until a farmer doing renovations on his home in 1963 opened a passageway to the ancient subterranean city (Truman, 2022). Before that serendipitous discovery, there was some archaeological and historical interest in the general region of Cappadocia. After Herodotus wrote the above passage about Cappadocia, Western academic interest in Cappadocia receded in favor of religious and political concerns that influenced the region as well as how outsiders viewed it. Western crusaders occasionally skirted the region on their journeys to the Holy Land, and Byzantine armies fought against the Seljuk Turks for control of it, which they eventually lost. The later Ottoman rulers eventually

allowed Western scholars to explore the region during the Enlightenment in the 18th century. Among the more notable of these Enlightenment explorers was Frenchman Paul Lucas, who mapped the entire region for the French Crown (Rodley, 2010, p. 1). Although Lucas never found Derinkuyu, and he was actually not looking for it, his observations and cartographic research opened the doors for later scholars to come to the region to study its cave churches and monasteries, which eventually helped lay the groundwork for scholarly studies of Derinkuyu. Throughout the 19th and 20th centuries, Western scholars continued to trickle into Cappadocia, but their primary interest was in the monasteries and churches cut into the cliffs.

At the same time, the interest in Cappadocia's Byzantine churches and monasteries brought experts in various fields to the region from around the world, so when Derinkuyu was finally discovered, there were people present to study the site. Not long after Derinkuyu was discovered, the Turkish government legally protected the area, and in 1985, the United Nations added the site to the UNESCO World Heritage List (Truman, 2022). Still, it would be nearly three decades before serious scientific analyses of Derinkuyu were conducted. Archaeologists were more focused on the easier-to-access churches, but in 1991, some finally began exploring Derinkuyu and other underground cities in the region. The Centro Studi Sotterranei (CSS) of Genoa, Italy, began conducting investigations in 1991, with the authorization of the Turkish Ministry of Culture (Bixio & Yamaç, 2023). Their work continues today, but they face a unique situation because Derinkuyu is now a tourist destination, so the Turkish authorities have to carefully balance the need for public access with the need to scientifically study the city.

Academic studies of Cappadocia, in general, only began to be published in the 1970s, and as with the archaeological work in the region, most of these studies have focused on the churches and monasteries (Bixio & Yamaç, 2023). Hundreds of churches and monasteries dot the barren landscape of Cappadocia, and although many of them are located far from Derinkuyu, they must be considered when putting the underground city in its proper context. The fact that Derinkuyu was located in the center of so many churches and monasteries may be tied to the creation of the underground city, and it's also important to note that Derinkuyu is not the only underground city to be discovered in Cappadocia. Located about six miles from Derinkuyu is another underground city known as Kaymakli, and Derinkuyu and Kaymakli are considered to be the best-preserved subterranean cities in Cappadocia (Granados, 1984, p. 21). So far, it appears that Kaymakli was smaller in size, as it is estimated that it could only house up to 3,500 people versus 20,000 or more for Derinkuyu (Yalav-Heckerroth, 2023). It is possible that Kaymakli and Derinkuyu were connected to each other, which would have significantly increased the size of the underground labyrinths.

Another underground city that is more like a large bunker is located near the modern city of Nevşehir. This settlement has more than 400 rooms and further suggests the underground structures in Cappadocia were significant for a number of reasons, but before examining why these structures were built, it is important to know how they were built.

The Construction of Derinkuyu

It is unlikely that Derinkuyu's builders wrote any texts relating the methods they used to build the settlement, how long it took them to build it, or even why they built it. If they did, the likelihood of finding extant copies is virtually non-existent. As a result, historians have been left to make educated guesses to answer those questions, but as scientific methods and

technologies have progressed along with more refined historical chronologies, some of these questions can be approached more objectively.

Since Derinkuyu was an underground dwelling, the builders did not have to rely on importing materials commonly used in ancient architecture, such as timber, stone, and mudbrick. This meant Derinkuyu, the other nearby underground settlements, and all of Cappadocia's churches and monasteries were created in a way that made them unique among other man-made structures at the time. The lack of water in the soil combined with the volcanic rock comprising most of the geology in the region made it conducive for builders to make underground tunnels (Truman, 2022). Though the lack of timber would normally be a hindrance, it forced Cappadocia's builders to create innovative solutions (Rodley, 2010, p. 5). The builders of Derinkuyu and the structures across Cappadocia had to use their environment to create limited spaces, so the aesthetic qualities were not prioritized, but the Cappadocian structures' unique appearance makes them aesthetically pleasing to many lovers of architecture regardless.

Perhaps the biggest question modern archaeologists must attempt to answer is whether the site was planned out ahead of time or built in increments and took on a life of its own, so to speak. It is believed that Derinkuyu was built in at least three phases, with each addition getting progressively more complex. The first phase involved digging a well and the first two airshafts. It is logical to think that construction needed to begin here, as the well could not have been built later, and the shafts were needed to bring air first to the workers and then the inhabitants of the settlement. Once the shafts were in place, the workers began the next phase, which involved digging the initial rooms. This phase likely required the most manpower because the most amount of rock was removed during it (Bixio & Yamaç, 2023). The third and final phase involved the workers connecting the rooms, adding more ventilation shafts, and constructing the millstone doors (Bixio & Yamaç, 2023).

It is difficult to say how long it took to build Derinkuyu, but it probably took several decades if not longer. If construction began in the Phrygian or even the Hittite era, then the building took place over the span of centuries. Even if the city was only a Byzantine-era complex, it likely took several decades. Derinkuyu was likely a work in progress and never completely finished, which would mean it was never envisioned by a single engineer to be built and completed within a finite period.

In conjunction with all of this, since there is no scholarly consensus over when Derinkuyu was built, it is difficult to determine which tools were used, but the majority of the work likely consisted of hollowing out the complex and dragging stones away, which could have been done with Bronze Age, Iron Age, or medieval tools. Equally mysterious are the identities of those who worked on the complex. If work on Derinkuyu began in the ancient period, then most of the manual labor could have been provided by conscripted workers with skilled engineers overseeing the work. A similar worker demographic would have provided the labor during the medieval period, although it could be assumed the laborers would have primarily been locals instead of being brought there from the farther corners of the empire.

Derinkuyu would be difficult for a claustrophobic person to navigate with its narrow hallways and low ceilings, but it is incredibly large for a premodern, man-made, subterranean complex. Archaeologists have uncovered five overlapping levels thus far, and it is likely they will find even more in the future. The lowest level is 278 feet below the surface, which is impressive when one considers the city was built long before elevators, and one level was connected to the next, usually via short staircases (Nývlt et al., 2016, p. 2253). The general layout of the

complex appears to have been for practical reasons rather than aesthetics, as scores of rooms are randomly connected and do not seem to fit any noticeable pattern. This would, again, appear to indicate that Derinkuyu was a work in progress and built in a way that allowed rooms to be added as needed. The builders appear to have let the floors of the complex and the complex itself take shape as they made additions instead of working off of a grand design. This concept seems further underscored by the fact that the vertical distances between the floors vary (Saher & Mihci, 2017, p. 398).

The site's rooms had different functions. To date, archaeologists have identified at least one chapel/church, bedrooms, kitchens, cisterns, warehouses, and even stables for livestock (Nývlt et al., 2016, p. 2254). The rooms connect to each other through narrow hallways of varying lengths or short staircases, with the stables generally on the top level, which is logical because it would be logistically more difficult to move livestock through several narrow tunnels and staircases. Other than that, however, there is seemingly no pattern as to which rooms are located next to others. For example, some living spaces are located next to warehouses in some areas, while in other areas, they were located next to kitchens, cisterns, or larger meeting places.

When Derinkuyu was inhabited more than 1,000 years ago, there were several well-concealed entrances on the surface, which may have been done for security (Saher & Mihci, 2017, p. 398). In fact, some have speculated that security was the primary reason for Derinkuyu's construction in the first place. The existence of multiple entrances could also suggest a security feature, as they would have provided a quicker and easier entrance for inhabitants on the surface when evading potential dangers.

Multiple entrances could also mean more entry points for hostile invaders, so the presence of multiple hidden entrances is not necessarily proof of security features in and of itself. However, the men who engineered and built Derinkuyu had one major security feature in mind when they built it: its doors. The doors used at Derinkuyu's entrances, as well as the entrance to each level and in the hallways, were as unique as they were efficient. Instead of using standard wooden doors with frames and jambs, Derinkuyu's builders built large stone doors resembling millstones. The millstones were kept in a divot on the inside of the doorway, which allowed them to be rolled out when the door needed to be closed (Bixio & Yamaç, 2023).

The size and composition of these millstone doors may suggest a few different possibilities as to how and why these doors were used. First, the doors follow the general idea that Derinkuyu's builders primarily used only materials from the site. The millstone doors were likely cut from the stone removed from the initial construction and/or excavation of the city. The millstone doors are also single stone pieces, so it is highly unlikely they were created somewhere else and transported to Derinkuyu.

The large size of the millstone doors and the fact they were placed on the inside of the doorways point toward another security measure. The large doors would have been difficult for invaders to remove, and once one door had been removed, they would still have to get through several more if they intended to take the entire underground city, which would have given Derinkuyu's inhabitants time to escape through other entrance/exit points. The size and placement of the doors may have also served to mitigate possible internal security problems as well - if fires, cave collapses, or ventilation problems occurred in one section, the city's inhabitants could have used the doors to close other sections, thereby mitigating the problems. The doors would not have provided a perfect seal, but they would have slowed down an impending tragedy.

Next to food and water, clean air is essential, and in an underground city such as Derinkuyu, providing the adequate amount of air is a vital part of the structure's architecture. As with any other commodity, air is consumed, so having more people in an enclosed structure uses up more air, meaning the builders had to devise methods to constantly circulate fresh air into the city. 50 ventilation shafts have been discovered thus far, and it is likely that more will be found in the future (Nývlt et al., 2016, p. 2255). The shafts begin on the surface and are carved into the floors and ceilings of the rooms, although not every room has a shaft running through it.

In addition to bringing fresh air into the complex, it has been postulated that the shafts were also used for communication (Saher & Mihci, 2017, p. 400). The inhabitants could have had conversations with people on other levels of the complex or those on the surface, although this system would not have been without its problems. If multiple people were attempting to have conversations through the same shaft, the communications would have been muddled and difficult to understand. Therefore, it is likely that most conversations done through the vents would have been conducted from adjoining floors, where there would have been less interference.

Although the ventilation shafts did not run through every room, there are also thousands of smaller sub-ducts connecting the rooms to the ventilation shafts and each other (Saher & Mihci, 2017, p. 400). The sub-ducts would have helped circulate the air, making it more breathable and less stale for those living in the chambers for extended periods. The circulating air may have also moderated Derinkuyu's temperature, providing its inhabitants with relief from the hot, dry Cappadocia summers (Nývlt et al., 2016, p. 2255).

Upon entering Derinkuyu from the surface, visitors and inhabitants would have navigated past kitchens, wine cellars, and stables on the first two floors (Mutlu, 2008, p. 13). The reason for keeping the stables near the surface was quite logical and has already been mentioned, and there may be a number of reasons why the kitchens and wine cellars were placed on the upper levels, but safety likely played a role. Fires are always a hazard in kitchens, so building the kitchens on the upper levels would have mitigated the potential for destructive fires since fire and smoke rise. The wine cellars were probably kept in the upper levels because wine was commonly used for cooking and regularly consumed with meals. The second floor also had a larger open area that was probably used as a common area, a gathering point, and possibly a secondary church. The first two levels of Derinkuyu would have been bustling with activity, and below those levels, the people lived out their day-to-day lives.

The living spaces are separated by arches, columns, or walls, depending on their size (Saher & Mihci, 2017, p. 400). The living spaces appear to have been quite Spartan, with no wall decorations, graffiti, or religious symbols of any type having been found so far (Rodley, 2010, p. 6). The beds the occupants used would have been quite utilitarian, consisting of straw mats. The straw could have been repurposed in the animal stables on the upper levels. The living spaces are scattered throughout the third and fourth levels of Derinkuyu, along with more tunnels and the church (Mutlu, 2008, p. 13). Several warehouses were also scattered throughout all four levels.

It is important to note that it is difficult to differentiate human dwellings from warehouses (Rodley, 2010, p. 6). Both types of rooms were, for the most part, empty spaces with no extant furnishings and nothing that would indicate their functions. The warehouses were likely spread throughout the complex to allow the inhabitants ease of use. Grains, oils, and possibly weapons would have been stored throughout the complex, so if one or more of the millstone doors needed to be closed in case of an emergency, a ready supply of food and other supplies

would be available. If this is true, it would point strongly to Derinkuyu being primarily used as a refuge from invaders, bandits, or hostile people in general.

The primary church was on Derinkuyu's lowest level (Saher and Mihci, 2017, p. 400). There are a number of reasons why the church was located on the lowest level, with one of the more interesting reasons being related to acoustics. A study done on Derinkuyu's soundscape revealed that sounds are amplified in the church, which would have been useful for a service if there was a large audience (Saher and Mihci, 2017, p. 400). The relative safety of Derinkuyu's lowest level was also probably a reason for the church's location. As mentioned earlier, fires on the upper levels probably would not have spread to the church due to the nature of fire and smoke, as well as the millstone doors. The lowest level would have also been the safest place from invaders. If important icons and/or religious relics were kept at Derinkuyu, they were most likely kept in the church, which, due to the millstone doors, would have made it the safest place.

Though archaeologists have been able to determine what most of the rooms in Derinkuyu were and how they were used, it still requires quite the imagination to think about what daily life might have been like in the underground city. For example, one important aspect of life in Derinkuyu that has often been overlooked in studies is the site's waste removal system, or lack thereof. Obviously, all of the animals and people in Derinkuyu had to relieve themselves, and that waste had to be disposed of in a way that was safe and did not adversely inhibit living conditions. Humans could have controlled this situation better by using buckets that could be brought to the surface and disposed of, but what about the animals? What if the inhabitants were there for long periods when hiding from invaders? Dumping the waste in the shafts leading to the well was clearly not an option, as that would have polluted the water supply.

Several of the rooms show signs of small holes dug into the floors, which might have served multiple purposes. These holes could have served as feeding troughs for animals, fire pits, and possibly even temporary waste disposal when the city's inhabitants were unable to go to the surface. Clumps of straw and earth could have covered the waste to create a sort of compost pile, but the odor would have certainly been strong, and this would not be a long-term solution to waste disposal.

It is also crucial to note that whether Derinkuyu was first built in the Bronze Age, the Iron Age, or the Middle Ages, the level of available technology making life easy in the complex was about the same. Because Derinkuyu was inhabited long before the harnessing of electrical power, and many things modern societies take for granted would have been unavailable, including artificial light. Candles and torches would have provided light for Derinkuyu's inhabitants, so an ample amount of lighting oils would have needed to be stored in the warehouses. There is little else that could have been done to alleviate the light problem, and because lighting oils were probably a valuable commodity, the people of the complex had to conserve them, making Derinkuyu a relatively dark place on average.

Despite the many ventilation shafts and sub-ducts, it is likely the air in Derinkuyu was often stale. The limited fresh air would have created numerous health maladies for many people, making long-term residency in Derinkuyu questionable. The food was also probably rationed due to the nature of living underground. After all, growing crops would have been impossible, and there was limited room to raise livestock. All of these points indicate that life in Derinkuyu would have been difficult for the average person, if not impossible over the course of the long term.

However, along with the fact that Derinkuyu was well-organized and large, it might have been much more comfortable than other cave complexes, and the 4th century BCE Greek historian Xenophon wrote about a colony of troglodytes (cave dwellers) he encountered in Armenia. Cappadocia is located just west of Armenia, so his description of Armenian troglodytes may offer modern scholars some information about life in Derinkuyu. Xenophon wrote, "The houses were built underground; the entrances were like wells, but they broadened out lower down. There were tunnels dug in the ground for the animals, while the men went down by ladder. Inside the houses there were goats, sheep, cows and poultry with their young. All these animals were fed on food that was kept inside the houses. There was also wheat, barley, beans and barley-wine in great bowls." (Xenophon, 1972, IV, 5). Derinkuyu was probably much larger and more complex than the site Xenophon described.

Another factor to consider about the daily lives of the inhabitants of Derinkuyu is how their lives were regimented. A central government or religious authorities were obviously responsible for the construction and additions to Derinkuyu, so it is also likely those same authorities had significant control over the complex, whether it was permanent, temporary, or seasonal. Even if Derinkuyu was only occupied temporarily, an authority of some type would have been needed to distribute the food and keep order. This likely would have been easier if all the inhabitants were pious followers of the same faith, as was the case in the later stages of Derinkuyu's occupancy, but some type of secular authority was still needed to prevent those who strayed from the faith. It is unknown what the authority at Derinkuyu looked like, but based on the nature of the Byzantine government, they were likely representatives of both the Greek Orthodox Church and the Byzantine royal family.

Derinkuyu existed long before the inception of modern capitalism, but elements of free market economies existed in most premodern cultures, and the Byzantine Empire was known for its merchants and trade routes (Jotischky & Hull, 2005, p. 89). The settlement likely existed along or near a trade route, and merchants probably supplied Derinkuyu with much of its supplies. It is also likely there was a market in one of Derinkuyu's rooms, although it was likely not very large and probably focused on luxury items, with essential items likely being rationed by the authorities of the city. The nature of Derinkuyu's government and economy likely changed over the centuries, as the city may have been under the control of multiple empires.

Questions of Chronology

Perhaps the greatest question about Derinkuyu, which creates the most obstacles to understanding the city, is its chronology. Today, there is no academic consensus for when construction began on Derinkuyu, although most agree that it was at its peak in size and importance during the 10th and 11th centuries. Those who believe Derinkuyu was first built in the Christian era argue there is little pre-Byzantine archaeological evidence that has been uncovered in Derinkuyu or in the other underground cities of Cappadocia. In 1989, Kostof noted, "Of the thousands of burrowed spaces in the pliant tuff that have survived, few seem to antedate Christianity and mature Christianity at that. But there is no reason to disbelieve that the practice was more ancient" (p. 19). On the other hand, there are some textual sources implying there were troglodytes in the region in the pre-Christian era. In addition to the Xenophon passage cited earlier, the 10th century Byzantine historian Leo the Deacon wrote that the people of Cappadocia were once known as troglodytes (Kostof, 1989, p. 19). This would indicate that people were living in the underground cities of Cappadocia sometime

before Leo's era, but just how far back it is difficult to say. Some historians have even argued that the cliffs and caves of Cappadocia were occupied as far back as the Neolithic Period.

The earliest date of origin some are willing to consider is the Hittite Empire, or some time from about 2000 to 1200 BCE, but due to the lack of archaeological evidence, most are not willing to support this claim (Nývlt et al., 2016, p. 2253). Some have argued that construction on Derinkuyu first began during the Hittite Empire or even during the Neolithic Period and was then fully developed in the medieval era (Mutlu, 2008, p. 12). The possibility of Derinkuyu's origins in the Neolithic era should first be considered. Some of the world's earliest permanent settlements and stone structures were built in Anatolia, including Catal Huyuk (c. 7500-6400 BCE), Gobekli Tepe (c. 9500-8000 BCE), and Nevali Chori (c. 8400-8100 BCE). Although none of these sites are located in Cappadocia, they indicate that the people in Anatolia had the stone-working knowledge needed to make an underground structure so far back in time. In fact, the Neolithic sites mentioned above are more complex and exhibit better workmanship than Derinkuyu, which, aside from its impressive millstone doors, was for the most part built out of hollowed-out rocks. A major argument against any Neolithic activity at Derinkuyu would have been the organized labor required. Although the other Neolithic Anatolian sites also required moderate or significant labor pools, the inhospitable conditions at Cappadocia would have made it unlikely that any large Neolithic group would make the site a long-term settlement.

The theory that the construction of Derinkuyu began during the Hittite Empire is much more realistic when one considers that Cappadocia was mostly contiguous with the borders of Bronze Age Hatti, the heartland of the Hittites (Haywood, 2005, pp. 36-37). The Hittites' capital city, Hattusas, was located on a high plain near the Halys River, from which many trade routes and roads emanated during the Bronze Age. So, there was definitely Hittite activity around the location that would become Derinkuyu, but that does not necessarily mean construction began on the site during that time. The first question relating to the Hittites potentially initiating construction at Derinkuyu is whether the Hittites had the technical and logistical capabilities to build the site. By 1500 BCE, Hittite society was highly developed, with an absolute monarch who ruled from Hattusas and regional governors who served as quasi-feudal princes (Macqueen, 2003, p. 77). The Hittite kings were able to allocate large pools of labor to build the city of Hattusas, which is notable for its Great Temple, walls, and gates, so it is reasonable to think they easily could have ordered the initial construction of Derinkuyu.

However, this leads to another, more important question: why would the Hittites build an underground city? The simple answer to this question is that they did not have a reason. Hatti was relatively isolated and safe from other major Bronze Age powers until the Sea Peoples invasions that marked the end of the Bronze Age, so the Hittites would not have needed to build the site for protection. It is possible that some Hittites began building the site in the midst of the Bronze Age collapse around 1200 BCE, when the Sea Peoples and other bands of invaders were ravaging Anatolia, but there is no evidence for this. Furthermore, the Hittites were known for their intricate rock sculptures and reliefs, so historians might think there would be some evidence of that at Derinkuyu (Macqueen, 2003, pp. 137-147). It is also unlikely that, in the face of collapse and immediate threats, the labor needed to begin construction of Derinkuyu, even for just a few rooms, would have been unavailable or impossible to organize any building project, even a minor one.

On the other hand, the Hittites could have built the first few rooms of Derinkuyu as a storage depot and waypoint along trade routes that connected their empire internally, as well

as those that connected their empire to the Assyrian and Mitanni empires in the south. Derinkuyu may have served as a stop for Hittite caravans, where they could replenish their water and food supplies as they trekked across the inhospitable region of Cappadocia. For now, the Hittite presence at Derinkuyu is conjecture, as is the potential Phrygian presence at the site.

After the collapse of the Bronze Age in c. 1200 BCE, Anatolia entered a dark age that ended about 900 BCE, when new kingdoms formed. Phrygia and Lydia were among the most important of these Iron Age kingdoms, and both were Indo-Europeans, linguistically and culturally. The land that became the kingdom of the Phrygians was roughly equivalent to the borders of the Hittite homeland, so during the 8th and 7th centuries BCE, Cappadocia was ruled by the Phrygians (Kuhrt, 2010, p. 562). This was the kingdom of King Midas (r. circa 738-696), whose legendary wealth may have been based on historical reality (Kuhrt, 2010, pp. 562-568). The Assyrian sources indicate the Assyrians signed a formal treaty with the Phrygians, which likely opened more trade routes between the two powers (Kuhrt, 2010, p. 566). This could mean that when the Phrygians inherited most of the Hittite heartland, they also inherited ancient trade routes near where Derinkuyu was located, giving them a potential reason to develop the underground city.

With that said, the idea that the ground at Derinkuyu was first broken by the Phrygians appears to be promoted more in popular than scholarly quarters (Truman, 2022). The Turkish Department of Culture advocates this theory on its websites, stating that the Phrygians were the first people to inhabit Derinkuyu ("Derinkuyu," 2014). However, most of these popular sources offer little evidence or reasons to support this idea. As with the Hittite example, the Phrygians left no inscriptions or artwork in Derinkuyu that could definitely tie them to the complex's initial construction. This is not to say the Phrygians did not initiate construction at Derinkuyu because, as mentioned above, it is likely the city was located near trade routes, and therefore, the location could have been used as a waypoint or storage facility for caravans. It is important to consider more thoroughly how common troglodytes were in the ancient Near East and if an underground city in Cappadocia was even feasible in antiquity.

Earlier, a passage from Xenophon's *Anabasis* was cited to describe how troglodytes lived in Armenia, and given that ancient Armenia and Cappadocia bordered each other, it is probably a good representation of what life might have been like in Derinkuyu if it was built before the Christian era. An examination of some other ancient sources indicates that cave dwelling was not uncommon in the ancient Near East at about the time of the Phrygian Kingdom. The ancient Greek geographer and historian Strabo wrote about troglodytes who lived in Arabia, Nubia, and the Black Sea, and he specifically noted how the Nubians (Ethiopians) dug homes into the earth, presumably to mitigate negative environmental elements: "The Pharusians and Nigretes who live above these people near the western Aethiopians also use bows, like the Aethiopians; and they also use scythe-bearing chariots...Some of them are said to live like Troglodytes, digging homes in the earth. And it is said that here too the summer rains are prevalent, but that in winter there is a drought, and that some of the barbarians in this part of the world use also the skins of snake and fish both as wraps and as bed-covers." (Strabo, 2001, XVII, 3, 7).

Although none of Strabo's descriptions of troglodyte dwellings and culture in the ancient Near East were from Cappadocia, Rodley has argued they may, in part, be based on earlier accounts from Cappadocia (Rodley, 2010, p. 7). If true, this could place Derinkuyu's origins to the Phrygian Kingdom at least, or even possibly the Hittite Empire.

There are at least two other notable sources mentioning troglodytes in the ancient Near East that should be considered. The Old Testament book of Obadiah concerns the Kingdom of Judah's conflicts with Edom, one of its traditional rivals. Although the book was probably recorded after the Babylonian captivity in the early 5th century BCE, the events it chronicles took place in the late 7th and early 6th centuries BCE, during Judah's conflicts with the Neo-Babylonian Empire (Kitchen, 2003, p. 376). In this short book, Obadiah describes the Edomites as living among the cliffs of Edom: "The pride of thine heart hath deceived thee, thou that dwellest in the clefts of the rock, whose habitation is high; that saith in his heart, 'Who shall bring me down to the ground'" This passage indicates that people were living among the cliffs, and presumably within the cliffs, by at least the 7th century BCE in the Levant, so it is not unreasonable to think that this way of life was common throughout the greater Near East to mitigate the effects of the environment and safeguard against enemies.

There is one other source that points toward ancient Near Eastern troglodytes being common before the Christian era. The Muslim holy book, the Quran, was written in the 7th century, but it contains verses related to events in the Near East several centuries prior. In one passage, the lost city of Iram is mentioned, along with a people referred to as the Thamud, who were possibly troglodytes: "Have you [Prophet] considered how your Lord dealt with [the people] of 'Ad, of Iram, [the city] of lofty pillars, whose like was never been made in any land, and the Thamud, who hewed into the rocks in the valley, and the mighty and powerful Pharaoh?" (89:6-10). Nothing else is written about the Thamuds' building activities, although it can be assumed they lived inside the rocks they hewed into the valley.

When the Quran, Obadiah, Strabo, and the passage from Xenophon are collectively considered, an image of troglodyte activity throughout the ancient Near East emerges. Most of these passages have no dates, but Obidiah suggests troglodytes existed as early as the 7th century BCE, so it would not be unreasonable to go back a bit further in time to assume the Phrygians or even the Hittites were Derinkuyu's original builders.

Phrygia was conquered by Croesus of Lydia in the mid-6th century BCE, permanently ending Cappadocia's rule by natives. The Lydians were later conquered by the Achaemenid Persians, and after that empire was toppled by Alexander the Great in 330 BCE, Cappadocia became part of the Hellenistic world (Morkot, 1996, pp. 124-129). The control of Cappadocia passed through the hands of different Macedonian warlords, namely Antigonos and Seleucus, and a part of it eventually became a part of the Seleucid Empire (Morkot, 1996, pp. 126-127). The Kingdom of Cappadocia also formed during this period in 331 BCE, but it was started by a Persian royal family. Derinkuyu, or the location that would become Derinkuyu, was ruled by the Persian-Cappadocian dynasty, but once again, there is no evidence they either built or added to the structure if it already existed when they took control.

Geopolitical changes in the 1st century BCE affected Cappadocia and Derinkuyu once more when the Romans absorbed Macedon and Pergamon, putting them right on the doorstep of Cappadocia. The Romans took Phrygia in 116 BCE and Cilicia in 102 BCE, but most of Cappadocia and the area in which Derinkuyu is located remained independent for a while longer (Morkot, 1996, pp. 132-133). Cappadocia finally became a Roman province in the year 17 CE, and the new city of Caesarea (modern Kayseria) was built, quickly becoming the most important city in the region.

The true change to the region was not political but religious. The emergence of Christianity as a universal religion quickly spread through Asia Minor, as many of the early churches, and

all seven of those mentioned in the book of Revelation, were located in eastern Asia Minor. It is also worth noting that the Apostle Paul was born in the city of Tarsus in Cilicia, just south of Cappadocia (Jotischky & Hull, 2009, pp. 100-103). Christianity gained influence and popularity in the first two centuries of the common era, and Caesarea became a bishopric in the 2nd century (Bixio & Yamaç, 2023).

Christianity faced serious obstacles in the late 3rd and early 4th centuries that may have played a role in Derinkuyu's being built or expanded if a part of it already existed. Emperor Diocletian was particularly anti-Christian in his tone and policies, which forced many Christians underground, literally and figuratively. In 303, Diocletian issued an edict ordering the destruction of Christian churches and scriptures, and that edict was followed by even harsher ones, including a requirement that all inhabitants of the Roman Empire sacrifice to the emperor and the Roman pantheon (Scarre, 1996, p. 117). These harsh measures were later lifted by Emperor Constantine (r. 306-337) after 312, but in the meantime, Christians suffered considerable persecution. Christians continued to practice their religion in private, in people's homes or even in remote locations such as Derinkuyu, just as the earliest Christians had done in the 1st century CE. It is quite possible that Derinkuyu was first built either during the latter half of the 1st century or in the 4th century, during Diocletian's reign, as a way for the faithful to practice their religion relatively free from persecution.

After Constantine converted to Christianity later in his life, Christianity played a more central role in the Roman Empire, but Cappadocia and Derinkuyu still faced problems from outside forces. The Romans' acceptance of Christianity may have allowed the Christians of Cappadocia to openly practice their religion, but geopolitics continued to influence their lives as well as the development of Derinkuyu. The collapse of the Western Roman Empire in 476 is often viewed by historians as the end of the ancient world and the beginning of the medieval era. Rome fell into the hands of Germanic tribes, who transformed Western Europe into their image, while Constantinople continued to use Roman traditions as well the name in what modern scholars refer to as the Byzantine Empire. It is likely that Derinkuyu was being built by this time and was supported by the authorities in Constantinople, who merged secular and church authorities directly, unlike the monarchs of the West, who maintained a separation between their powers and those of the Church in Rome. Cappadocia's chronology would also point toward most of the construction being done at Derinkuyu from the 5th through 10th centuries, as military pressures from the outside could have made the underground city a refuge, while trade and pilgrimage routes would have made it a convenient wayside.

The major rival for the Byzantine Empire in the 6th and 7th centuries was the Sassanian Persians, who followed the Zoroastrian faith. The Sassanians invaded Cappadocia and leveled most of the settlements in 611, which possibly sent more people into Derinkuyu or caused regional civil and religious leaders to expand the underground city.

The Sassanian raids were followed by Arab raids in the late 7th century (Bixio & Yamaç, 2023). The Sassanian Empire was toppled by the Muslims, but the Byzantines were able to fend off the Arab attacks, and it was during this time that Derinkuyu was likely at its peak in terms of population and influence.

By the early Christian era, Derinkuyu was located at a geographical crossroads that played a major role in the battle between Christianity and Islam. Derinkuyu grew to a population of about 20,000 inhabitants or possibly more at this time, which was likely due to the settlement's strategic location and placement along major pilgrimage routes. From the 8th

century through most of the 11th century, thousands of soldiers passed above and possibly stopped at Derinkuyu, as they came from the east to fight the Christians or from the west to battle the Muslims. Pilgrims also walked along those same trails, and Derinkuyu may have had more significance to them than the soldiers who marched above it.

Derinkuyu's strategic significance was linked to the city of Caesarea, located about 50 miles north of the volcanic valley of Cappadocia. Caesarea was a gathering point for Byzantine armies who faced the Sassanians first, then the Arabs, and finally the Seljuk Turks (Rodley, 2010, p. 5). Derinkuyu was at its peak during this period, so it is likely that Byzantine troops stopped there to resupply on their journey northwest to Caesarea or from Caesarea to southern Anatolia. By the 11th century, Cappadocia was highly militarized as the Byzantine Empire was feverishly fighting the Seljuks for control, so it is likely that soldiers were temporarily housed in Derinkuyu at any given time to counter the threat emanating from the east, but even in the 11th century, soldiers would have been outnumbered by pilgrims and other non-soldiers in Derinkuyu.

There is no doubt that followers of the Greek Orthodox Church found the region of Cappadocia to be a spiritual place. Despite its relative lack of life, the region's topography is rather otherworldly and isolated, which made it a prime location for monasteries. Eventually, hundreds of monasteries were built throughout Cappadocia, and Derinkuyu was located in their midst. It is difficult to say if Derinkuyu was itself a spiritual destination, but when one considers the plethora of monasteries in the region, this may have been the case.

A Greek language papyrus discovered in Egypt, known as SB XXVI 16607, may help historians and archaeologists understand the chronology, and possibly even the purpose, of Derinkuyu a bit more. The subject of the papyrus is an itinerary outlining a route from Egypt to Anatolia. Although Derinkuyu is not mentioned specifically, one stop noted was Doara (modern Duvarli), which was about 30 miles southwest of Derinkuyu (Perale, 2016, p. 163). The route relayed in the papyrus followed the Asia Minor coastline before going inland to Cappadocia. There was also a notable detour to Jerusalem, leading Perale to believe the itinerary of holy sites (Perale, 2016, p. 166). If this theory is true, Derinkuyu was likely a stop for pilgrims along the route, although there is no evidence suggesting the city itself was a destination or holy place, and there are no records or historical annals mentioning Derinkuyu as a spiritual destination or a receptacle of holy relics or icons. That said, Derinkuyu may have attained a secondary spiritual significance after this pilgrimage route developed, with pilgrims stopping there to rest and leaving icons and relics in the chapel on the lowest level. The fact that no icons or relics were discovered in Derinkuyu is not surprising when one considers the city was probably entirely abandoned in the late 11th century or the 12th century at the latest. The pious inhabitants of the city would have taken any valuable religious icons or relics with them if they were not looted by invading Muslim armies. Such items may also have been looted in the modern era, as they so often were in Egypt and Mesopotamia.

By the late 11th century, the Byzantine Empire was in retreat, which meant Derinkuyu and its inhabitants were living on borrowed time. The Seljuk Turks began raiding eastern Anatolia in the early 11th century, driven by material wealth by Turkish warriors known as *ghazis*. These initial *ghazis* were then followed by the greater Seljuk army fighting under the banner of Islam (Darling, 2000, p. 137). The Byzantine Empire was in a state of decline socially and economically, and it had difficulties fielding an army that could face the Seljuk threat (Kinder & Hilgemann, 1974, pp. 1;175). The first major blow to Derinkuyu took place in 1067 when the

Byzantines lost the city of Caesarea to the Seljuks. Historians have estimated the population of Derinkuyu to have been as high as 20,000 when the Seljuks took Caesarea, while others have stated it was about 15,000 (Granados, 1984, p. 1). On the more extreme end is an estimated 60,000 people living in Derinkuyu in the mid-11th century (Mutlu, 2008, p. 14). The lower two estimates are based on the known size of Derinkuyu, with the larger estimate presumably taking into account a much larger structure.

Whatever the case, Derinkuyu's inhabitants remained safe during the Byzantine-Seljuk War until things changed decisively in one battle.

As the Seljuks began a full military campaign into Byzantine Anatolia led by Sultan Alp Arslan (r. 1063-1072), Byzantine Emperor Romanos IV (r. 1068-1071), assembled a large force to meet them. It is likely that Romanos and his army trod over Derinkuyu before passing through Caesarea on their way to meet the Seljuk Turks at the Battle of Manzikert in 1071. Although the two armies were numerically close in size, the Seljuks obliterated the Byzantine force, with many members of the latter army deserting it (Kinder & Hilgemann 1974, pp. 1; 175). The Seljuks' victory at Manzikert gave them most of Anatolia and allowed them to establish the Sultanate of Rum in 1080 (Kinder & Hilgemann, 1974, pp. 1; 175). Turkish control over Anatolia had devastating consequences for Cappadocia and Derinkuyu. Islamic control over the region was solidified, and thousands of its inhabitants were massacred (Bixio & Yamaç, 2023). It is likely that Derinkuyu was depopulated and no longer used at this time, although it may have been repopulated around the time of the First Crusade (1095-1099).

The Armenian Kingdom of Cilicia, also known as Lesser Armenia, was formed in 1080, just as the Sultanate of Rum was established. The rulers of Lesser Armenia were Orthodox Christians, yet they were friendly with both the Byzantine Empire and Western Christians, as they were surrounded by hostile Islamic dynasties. The Taurus Mountains separated Cilicia from Cappadocia, but the southern region of Cappadocia, which included Caesarea and Derinkuyu, was sometimes contested by Armenian Christians. There is no evidence the Armenian Christians were able to take and hold Derinkuyu or if they even used the site, but there is evidence that Western Christians traveled through there during the First Crusade (1095-1099).

The primary route taken by the Crusaders during the First Crusade went through Constantinople before going east. The Crusaders first faced the Seljuks in Nicomedia in 1096 and then traveled south to Dorylaeum in 1097, winning both of these battles and then turning southeast into Seljuk territory. After passing peacefully through the allied Lesser Armenia, the Crusaders divided into two groups, going south into the Levant and eventually Jerusalem, while the other group went north before turning south and then going east into Edessa. The northeast route brought the crusaders into Cappadocia and through Caesarea before they turned south and east (Jotischky & Hull, 2005, p. 99). It was on the Edessa route that the Crusaders may have visited Derinkuyu just before they arrived at Caesarea, although there is no archaeological or textual evidence they did so.

It is likely that after the Seljuks conquered the region, most of the Christians were forced to leave, and the ones who stayed would no longer live in Derinkuyu for political and/or logistical reasons.

Derinkuyu's Purposes

Determining how Derinkuyu was built and the chronology of when it was built and used can only go so far in explaining why the settlement was built in the first place. Some potential reasons for Derinkuyu's construction have already been mentioned, but the following will be a more comprehensive survey that details some of the most popular and credible theories, as well as some theories that have been advocated by a smaller number of scholars. The merits of these theories will be considered, along with some potential criticism of them. Although some of these ideas seemingly contradict each other, there is no reason why the city could have been built for multiple reasons or that it was built for one or more reasons, but as time passed, it acquired new and different reasons for its existence.

The standard and most popular theory is that Derinkuyu was built as a refuge from invading forces. Advocates of this theory argue that Derinkuyu was probably built sometime in the 6th century CE, and it served as a refuge for Christians who were attempting to escape Muslim raids and attacks from the seventh through the eleventh centuries (Bixio & Yamaç, 2023). Derinkuyu's many storage areas would have held enough vital supplies to support the inhabitants for what would be the equivalent of a lengthy siege, although it would not have been of indefinite length. This theory posits that Derinkuyu would not have been a permanent settlement, with which Rodley concurs, citing numerous examples of why living in a subterranean city in the pre-modern world would have been extremely difficult, if not impossible, long-term.

Rodley argued that Derinkuyu would have been too dark, damp, and stale to sustain a large population for any extended period of time (Rodley, 2010, p. 6). Rodley admitted the ventilation shafts would have provided enough air for the people of Derinkuyu to live, but that larger populations would have made the air staler, and without modern filtration systems, it would have been unsustainable. The stale air would have also been damp. Taken together, this would have led to health problems such as pneumonia and tuberculosis. As noted above, Derinkuyu was lighted with candles and torches, but these do not have the lighting power of modern electricity and lightbulbs. Candles and torches were probably kept burning in the larger common spaces, but in order to preserve resources and for safety reasons, candles and torches were probably limited in the smaller living areas.

Rodley also noted two other features about Derinkuyu that she believed prevented it from serving as a long-term location. She noted that what are believed to have been large storerooms indicate the city was primarily used as a storage facility. This is actually part of another potential theory, but it would follow the idea that Derinkuyu was used for the dual purposes of a storage facility and refuge. To further support her point that Derinkuyu was not used as a long-term settlement, Rodley noted there were no prayers or religious symbols etched into its walls (Rodley, 2010, p. 6).

Another point to consider is Derinkuyu's possible connection to Kaymakli. If the two underground cities were connected, it might have been that in times of invasion, one was used for a primary egress (probably Derinkuyu because it was larger), while the other was used as a place of final retreat. Kaymakli may also have served as an access point for supplies during extended periods of hiding and/or siege. Since the majority of the population hid in Derinkuyu, fresh supplies could have been brought to the city through Kaymakli, and waste might have been removed to there, if the enemy was not on the ground above the latter city.

The arguments made for Derinkuyu being a short-term refuge are certainly interesting, but the theory raises some questions that cast it into doubt. If Derinkuyu was not a long-term settlement, where did all the temporary inhabitants normally live? As noted earlier, in the Middle Ages, Cappadocia was a relatively desolate region, largely devoid of notable towns. The easy answer would be that they came from Caesarea and the few other nearby Cappadocian towns, but there are no known records of such population transfers. Another problem with this theory is that it does not take earlier eras into account. If Derinkuyu was used as a refuge for Christians in the Middle Ages, why could it not have served the same purpose in the ancient world for the Phrygians or the Hittites?

Derinkuyu's close proximity to the many cave monasteries and churches of Cappadocia may also point to the reason why it was built. Although the priests and monks lived in the monasteries, Derinkuyu may have served as a secondary residence for those people. The underground city would also have accommodated large numbers of visitors and/or pilgrims who visited Cappadocia. Derinkuyu could have provided visitors to the cave churches and monasteries with a place to stay, and the underground city may have also been used as a storage facility for the churches and monasteries in the region. If Derinkuyu functioned as an auxiliary to the cave churches and monasteries in these ways, it was likely only meant to be a short-term residence for visitors. Religious pilgrims staying in Derinkuyu would have faced the same problems as those seeking refuge from invaders, most notably poor air and darkness, so it is unlikely that a large population could have stayed there for extended periods.

The idea that Derinkuyu, Kaymakli, and Nevsehir primarily functioned as storage sites has also been considered by some scholars, which would make sense because every empire and kingdom controlling Cappadocia developed extensive trade routes, and those trade routes were inherited and further developed by later powers. After the Seljuks conquered Anatolia, they continued this process and built a number of extensive wayside stops along the routes they referred to as *hans* (Rodley, 2010, p. 149). Rodley argued that although the Byzantine underground cities did not resemble the Seljuk hans in layout, they may have served the same function, with the former influencing the latter (Rodley, 2010, p. 149). If so, it could be that Derinkuyu and the other underground cities were built first, and the cave churches and monasteries were built later (Rodley, 2010, p. 150). Derinkuyu could have functioned as a supply hub for merchants and pilgrims but also as a storehouse for the many churches and monasteries in Cappadocia. It should be noted that because the churches and monasteries were built into the sides of cliffs and in caves, the monks and priests would have only been able to keep a limited number of livestock and other supplies at these locations, so Derinkuyu could have solved this problem. A small number of monks tasked with caring for the animals and watching over the supplies would have lived in Derinkuyu and the other underground cities, probably rotating their stays. The chapel on the lowest level would then have been attended almost exclusively by monks who were doing their shifts in the city.

Another possible explanation for Derinkuyu's purpose is that it primarily functioned as part of a military buffer zone. The crux of this theory is that the Phrygians built Derinkuyu and the other underground cities of Cappadocia along parts of their kingdom that bordered the Assyrian Empire (Bixio & Yamaç, 2023). This theory also implies that Derinkuyu was at least partially built as a refuge from attacks, but hundreds of years earlier than the way it was used in the Christian era. The idea that Derinkuyu was built by the Phrygians as a refuge against Assyrian attacks is plausible, as Cappadocia was a source of conflict between the two kingdoms (Kuhrt, 2010, p. 565). It is difficult to determine how intense the conflict was within Cappadocia, and as noted earlier, the Phrygians and Assyrians came to an agreement under

Midas and the Assyrian King Sargon II (ruled 721-705 BCE) that apparently ended the hostilities.

As it turned out, the Assyrian-Phrygian peace did not give the people of Cappadocia much of a respite before facing a new threat in the form of the Cimmerians. The Cimmerians entered the historical record by sweeping south from the Caucasus Mountains before entering Anatolia and attacking the Phrygian Kingdom in 695 BCE (van de Mieroop, 2007, p. 275). The Cimmerians temporarily ruled Phrygia before the Lydians took control of most of Anatolia (Kuhrt, 2010, p. 567). It is possible the Cappadocians used Derinkuyu as a temporary refuge during the Cimmerian attacks, although it is not likely they were able to hold out there for the long term. It would have been difficult to get supplies to the city, and the Cimmerian occupation would have placed the entire region under immense pressure.

A number of other reasons for Derinkuyu's construction were forwarded by Nývlt et al. in their 2016 article. Many of the reasons forwarded by these scholars were geographically and environmentally based, including the idea that the subterranean city was built to relieve the occupation on the surface (Nývlt et al., 2016, p. 2255). This is probably one of the least plausible theories and is not supported by any real evidence. The settlement above Derinkuyu, when the site was rediscovered in 1963, was quite modest and modern. There is no archaeological evidence that there was a sizable settlement on Derinkuyu's surface during any premodern era, and as mentioned earlier, the soil and climate of Cappadocia were not conducive to extensive agriculture. Population pressure does not appear to have ever been a problem in Cappadocia, so it is highly unlikely that Derinkuyu was built to mitigate any problems associated with overpopulation or other pressures on the surface.

Although population pressure was almost certainly not the reason for Derinkuyu's construction and habitation, environmental factors probably played a role. Nývlt et al. argued that it would have been more efficient to heat Derinkuyu than homes on the open plain during the winter months (Nývlt et al., 2016, p. 2255). This is interesting because it is seemingly corroborated by at least one medieval text. The anonymous writer of the 13th century *Synopsis Chronike* wrote that the Cappadocia cave dwelling was chosen as an abode for protection against the snow and cold temperatures of the region's winters (Kostof, 1989, p. 23). If true, this theory would indicate that Derinkuyu was only occupied on a seasonal basis. Perhaps the people in the immediate area lived in homes on the surface that were themselves temporary, and when the winter came, they retreated to Derinkuyu to avoid the worst parts of it.

The final environmental factor to consider is that Derinkuyu was built to mitigate the effects of dust in Cappadocia (Nývlt et al., 2016, p. 2256). As mentioned above, Cappadocia's climate is dry and considered semi-arid, so although it is not a true desert, there is plenty of dust in the air at any given time. It is unlikely that whoever built Derinkuyu chose to do so because of the high level of dust and dirt in the air, but it could have been a factor in the decision.

In fact, when one considers all the potential reasons why Derinkuyu was built, it is likely that multiple reasons were considered.

The evidence strongly suggests that Derinkuyu was not a year-round settlement, or if it was, then the people inhabited it in shifts. The stale air and overall darkness would have made it quite a bleak and unhealthy place that would have been detrimental to long-term stays. It likely served as a refuge from invasions at times, but whether that began during the Phrygian Kingdom or earlier is unknown. It also may have been used as a supply hub by the Byzantine government to aid merchants, pilgrims, and military forces. Environmental factors likely also

played a role in how and when Derinkuyu was occupied. People who lived on the surface may have retreated there during dust storms. Harsh winters probably also drove people underground.

Either way, after the Seljuk Turks conquered most of Anatolia, Cappadocia lost much of its population, and Derinkuyu probably ceased to be a population center. There are no Turkish or Byzantine sources mentioning the fate of Derinkuyu's people, but it is likely that many were forcibly moved from the region by their new rulers, while those who stayed in the area abandoned the underground settlement. The remaining Christians of Cappadocia maintained what was, at times, an uneasy peace with their new Muslim neighbors, who apparently had no interest in the underground cities or the cave churches and monasteries of Cappadocia.

Seljuk rule of Anatolia passed to Ottoman rule in the 15th century, but there would be one more significant historical event that would influence the story of Derinkuyu. The Ottoman Empire fought alongside Germany and the Austro-Hungarian Empire as one of the Central Powers in World War I, and when the war finally ended in 1918, the Ottomans paid a stiff price for being on the losing end. The Ottoman Empire and the sultanate that ruled it were dissolved in 1922, and the new ruler of the Republic of Turkey, Kemal Atatürk, began an immediate restructuring of the new country of Turkey. One of the first tasks Atatürk and the victors of World War I faced was how to deal with the large Greek minorities in Cappadocia and on the Turkish Black Sea coast. Likewise, there was a significant Turkish minority in neighboring Greece. The solution to this "problem" was addressed via the 1923 Treaty of Lausanne, which sent most of the Turks in Greece to Turkey and the Greeks in Turkey, including those in Cappadocia, to Greece (Kinder and Hilgemann, 1974a, 167). Approximately 30,000 Greeks were forced to leave Cappadocia, bringing with them oral histories of their home region and perhaps valuable information about Derinkuyu (Mackridge, 1990, p. 205).

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